

N-13423.344-B

LIBRARY
USA CGSC FT LEAVENWORTH KAN.

MAY 13 1965

ACCESSION NO. _____
PO REGISTR _____

Report Documentation Page			Form Approved OMB No. 0704-0188		
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 01 MAY 1964		2. REPORT TYPE		3. DATES COVERED	
4. TITLE AND SUBTITLE Command post exercise control at division level.			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) A.M. Rutherford			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) US Army Command and General Staff College ,100 Stimson Ave.,Fort Leavenworth,KS,66027			8. PERFORMING ORGANIZATION REPORT NUMBER ATZL-SWV-GDP		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited.					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT The analysis of command post exercise control at division level was undertaken because of the author's belief that command post exercise control can be substantially improved. This paper is limited to the study of command post exercise control at division level in order to restrict the scope of the analysis to appropriate proportions. This thesis is concerned with the investigation of the various aspects of command post exercise control (CPX). Specifically, its purpose is to identify the principles and develop the procedures which should govern the conduct of command post exercises at division level. The analysis will be accomplished by a study of current control organizations, control methods and procedures for the preparation and conduct of a command post exercise.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 240	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

COMMAND POST EXERCISE CONTROL AT DIVISION LEVEL

by
A.M. RUTHERFORD, Major, U.S. Army

Fort Leavenworth, Kansas
1964

PREFACE

The analysis of command post exercise control at division level was undertaken because of the author's belief that command post exercise control can be substantially improved. This paper is limited to the study of command post exercise control at division level in order to restrict the scope of the analysis to appropriate proportions.

Two main sources of reference were used in this analysis. The archives at the U.S. Army Command and General Staff College were the source for command post exercise documents. The second source was a command post exercise control questionnaire which was answered by individuals with prior control experience.

Acknowledgement is given to Majors L.W. Lodewick and C.F. Drake and Lieutenant Colonels W.S. Fisher and T.L. Raney for their assistance in supplying pertinent information concerning their extensive command post exercise control experience.

TABLE OF CONTENTS

	Page
PREFACE	iii
LIST OF TABLES	vi
LIST OF ILLUSTRATIONS	vii
 Chapter	
I. INTRODUCTION	1
II. GENERAL DESCRIPTION OF A COMMAND POST EXERCISE	7
III. Section I General	
Section II Functions and Responsibilities of the	
Control Group	
Section III Control Organization	
Section IV Control Methodology	
Section V Summary	
III. CONTROL ORGANIZATION	24
Section I Organization	
Section II Personnel	
IV. CONTROL METHODOLOGY	70
Section I Control Systems	
Section II Aggressor Force Play	
Section III War Gaming Methods and Techniques	
Section IV Realism	
Section V Controller Player Relations	
Section VI Summary	
V. EXERCISE PREPARATION	106
Section I Preparation Tasks	
Section II Preparation Time	
Section III Control Communications	
Section IV Training	
Section V Pre-exercise War Game	
Section VI Rehearsal	
Section VII Summary	

VI.	CONDUCT OF CONTROL - OPERATIONS	127
	Section I Operations	
	Section II Incidents, Messages and Injections	
	Section III Reports	
	Section IV Summary	
VII.	CONDUCT OF CONTROL - LOGISTICS	163
	Section I Combat Service Support	
	Section II Personnel	
	Section III Civil Affairs	
	Section IV Summary	
VIII.	CONCLUSIONS AND RECOMMENDATIONS	178
	Section I Conclusions	
	Section II Control Principles	
	Section III Control Procedures	
	Section IV Recommendations	
APPENDIX		189
BIBLIOGRAPHY		197

LIST OF TABLES

Table	Page
1. Nuclear Damage and Casualty	87
2. Dud, Vertical Error and Horizontal Error Probability . .	88
3. CEP	89
4. Close Air Support Damage Assessment	90
5. Average Percentage of Casualties per Day to a Division .	91
6. Gas Casualty Assessment	92
7. Rates of Movement - Dismounted Troops	94
8. Summary of SYNTAC Study Results	145
9. Effects of Sabotage	167

LIST OF ILLUSTRATIONS

Figure		Page
1.	Suggested Division Control Organization	28
2.	Control Organization, 2d Armored Division, Exercise CLOVER LEAF III	29
3.	Organization for Control Headquarters, Exercise CLOVER LEAF III	30
4.	Control Staff, Exercise PEACE MAKER/AUTUMN SHIELD	32
5.	Fourth Armored Division Control Staff	33
6.	Seventh Army Control Organization	34
7.	A Type G2 Section	40
8.	A Proposed G3 Section	43
9.	Third Armored Division Control Organization	45
10.	Infantry Division Control Team, Exercise BIG BLAST XIII .	48
11.	A Proposed G1 Section	49
12.	A Type G4 Section	52
13.	A Type Division Control Organization	63
14.	Control Staff Personnel Requirements - 25th Infantry Division	64
15.	Thirty Ninth Infantry Division Control Organization . . .	65
16.	Fourth Armored Division Control Organization - Exercise PEACEMAKER/AUTUMN SHIELD	66
17.	Rank and MOS Criteria for 7th Corps Control Personnel . .	69
18.	Combat Effectiveness Conversion Graph	93
19.	Combat Power Indices	95

20.	Functional Diagram EMBS	100
21.	Exercise Planning Schedule	110
22.	Fourth Armored Division Control Center	132
23.	Twenty Fifth Infantry Division Control Center	133
24.	Arrangement of Umpire Cubicle, USACGSC Map Maneuver M6491	134
25.	Seventh Corps Field Control Center	136
26.	Third Infantry Division Incident List	141
27.	Control After Action Report Format	147
28.	Control After Action Report Format (Part 2)	148
29.	Sample Incident List	150
30.	Type LRRP Messages	152
31.	Message Format	153
32.	Guide for Portrayal of Aggressor Actions	155
33.	Control Situation Report Form	157
34.	Air Force Reconnaissance Report Form	158
35.	Casualty Assessment Form	159
36.	Nuclear Weapon Report Form	161
37.	Casualty and Effectiveness Graph	171

CHAPTER I

INTRODUCTION

This thesis is concerned with the investigation of the various aspects of command post exercise control (CPX). Specifically, its purpose is to identify the principles and develop the procedures which should govern the conduct of command post exercises at division level.

The analysis will be accomplished by a study of current control organizations, control methods and procedures for the preparation and conduct of a command post exercise.

Since the parameters of control for each type of exercise vary, a common basis of understanding must first be established as to the definition of a CPX before we proceed further.

A command post exercise is a form of military exercise that evolved from field exercises, military drill and war games. While field exercises and military drill have been with us since antiquity, the so-called war game was born with the game of chess -- the oldest form of war game.¹ The first deviation from the rules of chess to form a basis for more realistic maneuver was made by Christopher Weikhann in 1664 at Ulm, Germany. Weikhann called his game "Kings Game." Each side had 30 pieces

¹Encyclopedia Britannica, History of War Games, (Encyclopedia Britannica Research Service Paper, Chicago, Ill., 1963), p. 1.

and there were 14 different kinds of moves involving such players as a King, a marshall, a colonel, a captain, chancellors, heralds, chaplains, knights, couriers, adjutants, body guards, halbardiers and 8 private soldiers.² While this first attempt at a war game was designed for pleasure and for the nobility, it set the spark that kept variations of the war game evolving until we have our highly complicated and detailed techniques and methodology of today. The field exercise developed from rudimentary drill and has in turn been elaborated into large scale combined arms exercises involving a myriad of men and equipment.

The command post exercise borrows both from the field exercise and the war game, utilizing elements of both.

The Dictionary of United States Army Terms defines a CPX as "an exercise involving the commander, his staff and communications within and between headquarters."³ FM 21-5, Military Training, has the following to say about a command post exercise:

a. A CPX is a field exercise for command, staff, headquarters and communication personnel at all levels. This exercise permits command and staff personnel to apply their knowledge of correct command and staff procedures to a wide variety of tactical situations.

b. CPXs vary in type. At one extreme is the type which resembles a map maneuver in which only key staff personnel participate. At the other extreme is the type which closely simulates combat. Here the com-

²Army War College, Brief Anthology of War Games, (AWC, Carlisle Barracks, Pa., 6 Jan 1958), p. 1-2.

³Department of the Army, AR 320-5 Dictionary of U.S. Army Terms, (DA, Washington 25, D.C., 28 Feb 1963), p. 98.

mand posts are separated by normal distances and are operated as in combat (normal distance). Command post exercises may be one sided or two sided. Controllers represent friendly and enemy units that are not represented by players.⁴

FM 105-5, Maneuver Control (Draft) adds the following to the definition:

"Command post exercises provide a valuable vehicle for training in displacement of headquarters; the use of staff procedures, techniques, and SOPs; use of alternate or fragmented command post echelons; maintenance of command and control under adverse conditions; and rehearsals for field exercises and maneuvers...CPXs afford commanders a valuable training device in the area of combat service support."⁵

It is noted that there are some differences in the definition of a CPX. For purposes of this analysis, a CPX is defined as an exercise carried out in the field or in garrison involving commanders, staff, headquarters and communications personnel and controllers. The exercise may be one-sided or two-sided with controllers representing troops, activities and facilities that are simulated. The purposes of CPXs are to train staff and commanders in correct procedures and to rehearse for field exercises and maneuvers, as well as to test war plans and new concepts and developments.

Due to its relative lack of expense, divisions and higher commands may conduct CPXs at frequent intervals. For example, maneuver involving more than a division on each side has seldom been held in Europe since World War II (Wintershield I and II being the most notable ex-

⁴Department of the Army, FM 21-5 Military Training, (DA Washington 25, D.C., August 1959), p. 48.

⁵Department of the Army, FM 105-5 (Draft) Maneuver Control, (USACGSC, Fort Leavenworth, Kansas, Oct 1963), p. 7.

ceptions),⁶ although many CPXs involving the entire NATO structure have been conducted (Exercise FALLEX 62 is only one of the most recent examples).⁷ The CPX is of great importance in the training of commanders and staff at division and higher level, and is an excellent means to test war plans or new concepts and developments. It is particularly valid since actual communications, time and space factors as well as personnel come into play. Another advantage of the CPX is that it can be conducted simultaneously with other division training. Additionally, many variables can be introduced into a CPX such as actions of enemy agents, refugees and logistic situations. Many of these characteristics apply in part to other exercises; however, the CPX represents an excellent compromise between a map maneuver or war game and a field maneuver (see Annex A for definitions).

The CPX is simple to conduct because of the relatively few personnel involved. This lack of troop involvement allows the CPX to be adapted to almost any type of tactical situation. The extent of operations is limited only by the maps available, and a large maneuver area is not required for its conduct.

Not only is the CPX one of the most important training tools available at higher levels, it is equally useful as a test and evaluation

⁶HQ Seventh Army, Seventh Army Critique on Exercise WINTERSHIELD II, (HQ Seventh Army, Vaihingen, Germany, 21 Feb 1961), p. 1.

⁷HQ USAREUR, Control Directive, Exercise FALLEX 62, (HQ USAREUR, Heidelberg, Germany, 30 July 1962), p. 4.

vehicle.⁸ Despite its importance, the Army does not publish a manual specifically for command post exercises. The new draft edition of FM 105-5 (October 1963) is a vastly improved document over its predecessor; however, it suffers from having to cover all types of exercises and tends to emphasize maneuver control. A CPX and a maneuver are controlled quite differently. While FM 105-5 does have a chapter on command post exercises the information contained therein would not serve as an adequate basis for the control of a CPX due to its lack of detail and completeness.

As a basis for the method of investigation, I am first listing a number of problem areas in the control of command post exercises:

I. Control Organization.

Personnel.

II. Control system, methods and procedures.

- a. War gaming.
- b. Controller-player relations.
- c. Standardization of methods, techniques and procedures.
- d. Realism.

III. Exercise preparation.

IV. Communications.

V. Liaison.

These problem areas were derived in part from my personal observations as a controller at corps level and from areas of difficulty that occur in other aspects of military activity. As an example, organization,

⁸HQ Fourth Army, Final Report, Exercise CLOVER LEAF III, (HQ Fourth Army, Fort Hood, Texas, 27 April 1959), p. 1.

one of the proposed problem areas, is always of concern in the military.

Control organization is an important aspect of control and is closely interrelated with the principles and procedures of CPX control. The analysis of control organization is necessary to the development of principles and procedures for control.

The format for the study of the above factors will be as follows:

1. Control Organization.
2. Control Methodology.
3. Exercise Preparation.
4. Conduct of Control.

This analysis will be conducted through the study of documents concerning recent command post exercises and current unit measures for accomplishing the tasks inherent in the above listed areas of concern.

The various methods of executing the control mission will be subjected to analysis and comparison, allowing conclusions to be drawn as to their relative validity. Based upon the conclusions, principles of control will be indentified and the optimum control methodology and organization formulated.

CHAPTER II

GENERAL DESCRIPTION OF A COMMAND POST EXERCISE

A general description of a CPX will be given in this chapter so that the analysis of CPX control may be carried out against a common background. This description will emphasize the control of the exercise and cover the player activities only briefly. Control organization and methods will be delineated as part of the CPX description.

Section I

General

The type CPX to be conducted will be determined by the exercise objectives. These objectives plus other exercise information are contained in the exercise directive. The exercise directive is the document which initiates preparation for the CPX. It will indicate the extent of participation which will govern the organization for control.

Player participation in a CPX will normally include the commanders and staffs of the division down through battalion level supported by the necessary communications and administrative personnel. The control chain of command parallels this with control representation at all participating players levels. Also, there are controllers at battalion level who represent the companies. These controllers are termed player/controllers as they act in a dual capacity.

The play of the exercise is initiated by the passing of information

to the players by the controllers through the normal means of communication. Message play may begin prior to the movement of the unit to the field. This is known as pre-exercise play, and is designed to build up to the active exercise situation. During the conduct of the exercise players receive information in the form of messages emanating from the control group and from subordinate headquarters. It is predominately through the means of message injection that controllers guide the course of the exercise. These messages represent the regular sources of information that are available to the players.

The play of the exercise is formulated so as to achieve the exercise objectives. Typical exercise objectives are exemplified by those prescribed for CPX III - 62 (25th Infantry Division).

- a. Familiarize personnel with division SOPs and assess their validity.
- b. Improve proficiency of fire support planning.
- c. Improve information dissemination.
- d. Evaluate division Chemical, Biological, Radiological Element (CBRE).
- e. Train staff and communications personnel.¹

Section II

Functions and Responsibilities of the Control Group

It is the responsibility of the division control group to prepare

¹Headquarters, 25th Inf Div, CPX III-62, (HQ, 25th Inf Div, APO 25, San Francisco, California, 21 Nov 1962)

the play for and conduct of the exercise. An integral part of this responsibility is the achievement of the exercise objectives. The subordinate control elements, at brigade and battalion level, also have a similar responsibility as it pertains to their level of play. The relationship that exists between the division control staff and control groups at battalion and brigade level is the same as in any military chain of command. The division chief controller exercises operational control over the subordinate divisional control elements.

Control group functions² will be discussed in three chronological parts; preparation, conduct, and post exercise.

Exercise Preparation

As with any project, adequacy of preparation will generally determine the results. The tasks involved in preparation are multitudinous since the control staff must plan the operations of an aggressor force which may involve several divisions or an army. Next, the methods and means of portrayal of the aggressor force have to be fabricated and then the system tested.

During the preliminary planning phase, well in advance of the assembly of the control group as a whole, the key members, taking into consideration the time available, must determine missions, allocate personnel and make up a schedule of tasks to be accomplished. The schedule includes dates for organization of the control group, briefings, pub-

²The word "function" as it pertains to this study is a special activity or tasks performed as part of the control mission. Example: The play of Air Force reconnaissance. (Webster's New International Dictionary, p. 1019.).

lishing of the control directive, conduct of pre-exercise war games and publishing of the control group incident list.

Detailed planning, involving only key staff personnel, commences after tasks are determined. Exercise objectives and the aggressor scheme of maneuver of the higher headquarters are studied to determine what course of action aggressor forces at division level should pursue. The start of detailed planning hinges on the receipt of the control directive from higher headquarters. Following approval of the aggressor scheme of maneuver by the exercise director, the scenario elaborating the aggressor course of action, is written. Concurrently, the control directive is planned, developed and written. It should be published as soon as possible in order that the controllers at lower levels have as much planning and preparation time as possible. As much as possible the controllers at brigade and battalion carry out concurrent planning.

After the scenario is developed, the incident list is composed and based on this, messages are written. The chief controller may at this time desire to enlarge the planning staff to execute there tasks since they are very time consuming, especially if there are very many incidents or messages to prepare.

Coordination consisting of personnal visits, conferences, briefings and rehearsals is carried on between control groups at various levels throughout the preparation for an exercise.

Training of controllers is carried out during the preparation phase. The type training and time devoted to it is decided by the chief controller. Responsibilities, time allocated, subject content and instructor personnel will be decided during the preliminary phase.

The culmination of preparation is the pre-exercise war game. Subordinate control groups may also participate in the division control staff war game. During the war game aggressor play is narrated, incidents are discussed, friendly actions are estimated and assessments for both sides are determined. The scenario is walked through, as it were, and tested with the prepared messages and incidents. Problems which have been uncovered are worked out, incidents revised, procedures practiced and coordination accomplished.

Finally a rehearsal is conducted, usually at field locations, utilizing the communications established for the exercise.

Conduct of Control Operations

All participating players and controllers move to the field for the conduct of the exercise. The players set up their command posts and establish their field communication system. Control groups normally are co-located with the division staff they are to control. They may be in the same compound or have a separate operations center near by. Intra controller communications are established as are controller to player communications. The exercise is initiated and sustained by messages sent from controllers to players. The player acts upon these messages just as he would in combat. The situation is developed and controlled throughout the problem by the injection of information from control. Some types of information will be transmitted by lower control groups and come to division via regular information channels (e.g. reports of units in contact). Other information will be injected by division control, (e.g. results of SLAR missions). The only unit movements that are not simulated are the displacements of the command posts to conform with

the tactical situation.

All staff sections are concerned with operations. Operationally, the G1 is concerned with casualties generated by aggressor combat power. He may keep tabs on aggressor strengths. The G1 monitors activities performed by special staff sections, within his area of responsibility and effects of operations upon these activities. The G2 is the center point around which all revolves since he controls the aggressor forces (and/or G3 or Deputy Chief Controller for Operations, depending on the control organization and concept. Most control groups, however, make the G2 responsible for aggressor forces).

This portrayal of the aggressor is the most important control function. It is executed not only by the G2 and his staff members but also by the artillery, chemical G3 and G4 controllers (if the G3 or G4 handles guerrillas). Some of the agencies that report information that can be used to indicate aggressor actions are:

- Air Force reconnaissance units (ASOC)
- Combat units
- Army aviation
- Army Security Agency
- IPW (Interrogator Prisoner of War) teams
- Field Operations Intelligence
- Counter Intelligence
- Adjacent Headquarters
- Higher Headquarters
- Long Range Reconnaissance Patrols
- Technical Intelligence teams

Each agency usually has several sources, as is indicated by the following list of sources:

POW

Deserters

Line crossers

Aggressor mass communication media

SLAR (Side looking airborne radar)

Airborne infrared

Photography

Captured documents

Drones

Aerial observers

Higher and adjacent headquarters

Longer range reconnaissance patrols

Grounds observers

Ground radar

COMINT (Communications intelligence)

ELINT (Electronic intelligence)

Friendly agents.

It is the function of the control group to represent agencies by sending information to players supposedly emanating from the above sources. The G2 role is emphasized because intelligence sources provide most of the information in an exercise. Since all controllers add to the portrayal of aggressor through the play within their sphere of interest, all need to collaborate closely with the G2 and intelligence controllers who represent various agencies. Controllers at subordinate levels carry out

the same tasks adopted to their level. Some sources are not available to them and will not be played. On the other hand they will play sources peculiar to their level, such as ground observers from front line units and radar.

The function of the G3 is to monitor the actions of the division and portray simulated friendly units. The G3 is the expert on the player unit plans and method of operation. He and the G2 work closely so that player actions are taken into account and so that the player is fed adequate information to paint the situational picture for him. The G3, particularly, must constantly keep in mind the objectives of the exercise to insure that they will be achieved.

The G4, like the G1, develops his play from the ensuing tactical operations. It is the function of the G4 controller to conduct combat service support play. He represents simulated combat service support units and monitors the actions of the division in the areas of combat service support. The G4 maintains records of major items of equipment in order to keep abreast of the division equipment status. He may keep similar records for the aggressor forces. Lower level combat service support controllers carry out similar functions as modified to fit their level of play.

Combat service support play is intimately connected with the tactical play and will affect it. For instance, a shortage of ammunition will have a definite effect on unit capabilities. Some combat service support situations that affect tactical operations may not have been caused by aggressor action. For example, it may have been written into the problem that there is a shortage of POL. This will affect unit cap-

abilities even though it was not caused by tactical operations. Because of the interrelationship of logistic and operational control functions, the two must be correlated.

Proper control of exercise play requires timely injection of pertinent, correlated messages. The message may be given to the player in several ways, utilizing the means of communications in use - such as telephone, radio, teletype or messenger. The message or injection may take any number of forms such as reports, estimates, captured documents, prisoner interrogation results or photographs. Concurrent liaison is necessary to see that the injection or series of injections is portraying the anticipated picture. If not, then the controller can take steps to see that the player receive the requisite information, so as to describe the situation properly.

Post Exercise Control Functions

There are three main functions to be performed by controllers following termination of the exercise. These are the writing of the control after action report, participation in the exercise critique and the writing of any evaluations that were directed to be made. Another important function is the proper disposition of the various records pertaining to the CPX to insure their availability to the next control group. Subordinate controllers carry out the same functions at their level. The after action report of the subordinate control groups is incorporated into the division control after action report.

Section III

Control Organization

The purpose of any organization is to carry out the assigned mission. The mission of a control group is to conduct a CPX such that the players are properly exercised and the stated objectives of the exercise are achieved. The control group principally represents the enemy force opposing the friendly division as well as simulated friendly units and requires a comprehensive staff to play the problem adequately. In order to exercise each player properly, the functions of the player commander and staff must be represented in the control organization.³ This is not to say that the control staff should be an exact replica of the division staff table of organization, but it certainly will bear a functional resemblance to it.

As was indicated above, the functional areas of the control staff will parallel those of the division staff. This presupposes a special staff. Whether each special staff member has to be represented is dependent on the amount of play in that functional area.

The functions which a staff must perform will dictate in large measure the form of that staff. By describing functions which are carried out within the control staff a clear picture of the staff responsibilities can be acquired. This will lay the basis for the analysis of the control organization in a subsequent chapter.

The personnel controller monitors and exercises G1 type activities.

³HQ 25th Infantry Division, CPX III - 62, (HQ 25th Infantry Division, APO 25, SF, Calif, 21 Nov 1962) p. E - 1.

Since he is also charged with staff responsibility for strength he may well have casualty and damage assessment duties. Most control groups give at least a portion of the casualty and damage assessment responsibility to the G1.⁴ The G1 normally is divorced from actual G1 type activities such as personnel procurement that occur within the control group. The G1 coordinates and supervises the control in those areas of concern usually handled by the special staff. An example is the Provost Marshall (PM) responsibility for certain aspects of the personnel officer's function to maintain discipline, law and order. The PM may be subordinate, to the G1 section if PM exercise play is primarily in the fields of G1 responsibility.

The crucial control function is in the field of intelligence play. The CPX concept is the portrayal of a mythical enemy by controllers. The heart of controller activity is in the portrayal of aggressor activities and this is generated, for the most part, in the intelligence section. In actual combat, a division staff learns of enemy actions through sources of information, but rarely through actual observation. The G2 is the section responsible for handling many sources and collating all incoming information of the enemy. Virtually all player activity, therefore, revolves around and is the result of information received about the aggressor. The preponderance of play carried out by staff sections other than the G2 is a result of play generated by the carrying out of the intelligence function. There are three broad categories of aggressor

⁴HQ 4th Army, Control Plan, Exercise CLOVER LEAF, (HQ 4th Army, Fort Sam Houston, Texas, 5 Dec 1954), p. 87.

elements that are played. These are conventional aggressor forces, guerrillas and agents. The intelligence section is so organized that it is able to handle the play of all aggressor forces concurrently.

The operations function within the control group varies depending upon the phase of the exercise, (before, during or after the exercise). The organization of the operations section also varies. During the preparation phase operational functions consist of planning, scheduling, conduct of training, arranging for and conduct of briefings, liaison, conferences, pre-exercise war games and rehearsals. During the exercise G3 functions include the simulation of nonparticipating friendly units, monitoring friendly force actions, running the control operations center and duties as the chief controller may direct. Following termination of the CPX the G3 contributes to the critique, and control after action report. These three phases require a different staff structure. As an example, during the conduct of the exercise the operations section is organized to operate on an action officer, shift basis. This configuration is not needed during the preparation for the exercise. The operations section must be so organized as to be able to adapt to the different functions that it must carry out during the various exercise phases. The same is true for the intelligence section and to a lesser extent for other portions of the control staff.

The combat service support control responsibility entails a wide range of functions consisting of play for all the technical services; play in the areas of labor, maintenance, construction, hospitalization, evacuation; area damage control and rear area security. Yet another function found within the G4 section is that of maintaining current data on

equipment status within the division. The G4 may also record the aggressor equipment status. The multiplicity of these functional areas indicates a requirement for a large combat service support representation on the control staff.

The control group is directed and supervised by a command element. Other functions of the command group include liaison, conduct of conferences, approval of the several control publications and direction of the activities of the subordinate control groups.

An important control group function is its own administrative support. This consists of such functions as billeting, feeding, personnel services, maintenance of files, supply, funding and security.

The above description of the functions carried out by a control group are not all inclusive, however, the important functions that have a bearing on the organization of the control staff have been delineated. Various staff forms may be devised to carry out the control mission. The criteria for determining the optimum arrangement is whether the organization is structured to handle the control functions most effectively.

Section IV

Control Methodology

Control methodology concerns the means that the control group uses to control the conduct of the CPX. A control system is first devised, then the methods of control are established to fit the parameters of the system. Finally, the procedures for carrying out each method are evolved. A system is the organized whole, or, as Webster's defines it, an assemb-

lage of objectives united by some form of regular interaction or interdependence.⁵ In this case, our control system is made up of the various control methods which are all interrelated. Control methods are the ways or means to carry out a particular portion of the control task. For example, representation of aggressor is a control task. A method of representing the aggressor is through the injection of information from POW. Procedure then deals, in this example, with the routine to be followed in doing this. That is, the type of format to use, the number to be injected per day, the type information to be contained in the IPW report and the way that the report will be transmitted to the player. Another example of the relationship between method and procedure concerns the determination of the results of engagements. A method is by war gaming the engagement. Procedures would then deal with the routines of carrying out the method by the use of certain war gaming tables, probability charts and dice.

The entire control system has many components, but the two major portions concern representation of the situation and the determination of the results of engagements and actions. The systems to accomplish the above range from a completely rigid system involving a written situation and requirement leading to a previously decided conclusion, to a "free play" CPX where the outcome of a situation is decided by the player versus aggressor actions only. Control methodology will be studied in detail in a subsequent chapter. The following discussion of the require-

⁵G and C Merriam Co, Webster's New Collegiate Dictionary, (G and C Merriam Co, Springfield, Mass., 1961), p. 863.

ments for the application of control methods within the areas of intelligence, operations and logistics will enhance the description of control methodology.

Control methods are needed in the following intelligence areas:

- a. Aggressor representation.
- b. Transmitting information to players.
- c. Time-space factors.
- d. Weapons effects.
- e. Capability assessments.
- f. Results of engagements.
- g. Degradation of force effectiveness
- h. Play of intelligence agencies and sources.⁶

The type control system used will have a decided effect on the method to be used. Each of the above areas may be broken into many sub-areas. Aggressor representation consists not only of units in contact, but the whole spectrum of the aggressor force from the deep lines of communication to the guerrilla or agent behind friendly lines and the aggressor aircraft overhead.

G3 control method requirements consist of:

- a. Representing nonparticipating friendly units.
- b. Conduct of control operations.
- c. Time-space factors.
- d. Weapons effects.

⁶Andrew M. Rutherford, Command Post Exercise Control Questionnaire, (USACGSC, Fort Leavenworth, Kansas, 10 Jan 1964), p. 15.

- e. Capability assessments.
- f. Results of engagements.
- g. Degradation of force effectiveness.⁷

Operations and intelligence interests mesh. Both are concerned with methods of determining effects of interaction between friendly and aggressor forces.

The following requirements exist for the application of control measures in the field of logistics:

- a. Effects of aggressor action on logistic functions and activities.
- b. Representation of the logistical situation.
- c. Casualty and damage assessments.
- d. Transmitting information to players.
- e. Effect of combat service support capabilities on tactical operations.
- f. Time-space factors.
- g. Portrayal of rear area activities.
- h. Civil affairs play.

When all of the areas which require the application of control methods are considered as a whole they make up the control system. The foregoing description of the requirements for control methods indicates the functional areas within the control staff where control methods must be applied.

⁷Ibid,

Section V

Summary

A description of a command post exercise has been presented in this chapter. The CPX as a whole was first portrayed in order to describe the CPX as an entity. Functions and responsibilities of the control group were then delineated for each exercise phase. Control organization was characterized from the standpoint of functional requirements. Control methodology or the control system, methods and procedures were described in relation to the areas of the CPX which require control.

The descriptive material in this chapter was deliberately couched in general rather than detailed terms so that the picture of a CPX would be clear and uncluttered with detail forming a more definitive background for the ensuing analysis.

CHAPTER III

CONTROL ORGANIZATION

The preceeding chapter gave a general description of the CPX. Our detailed analysis proceeds from that point to the form or organization for the execution of the control mission. Since personnel requirements and criteria are so closely connected to organization, that aspect has also been included in this chapter.

The organizational structure of division control will be analyzed in this chapter from a functional standpoint. Personnel requirements to carry out these functions adequately will also be studied. Previously established general organizational principles apply to CPX control organizations in the same manner as they do to other military organizations. However, there are organizational principles that pertain specifically to CPX control organization. These principles will be developed and identified in this chapter. Through the application of these principles of organization and the comparison of current control organizations, a type control organization will be developed.

Section I

Organization

The Dictionary of United States Army Terms defines organization as, "The definite structure of a military element prescribed by competent

authority..."¹ Webster's indicates that an organization is both the executive structure and the personnel of management; lumping both organization and the personnel that make up the structure together.²

An organization must establish relationships between functions, material and men grouped together for a common purpose.³ Developing an organization involves foreseeing the many varied situations in which the organization may be called upon to perform and providing the necessary means within the organization to accomplish these tasks.⁴ This involves an analysis of the tasks to be accomplished and the grouping of tasks of a similar nature within the same unit or sub unit of the organization. When established, the control group organization should conform to the following general organizational principles:

1. Unity of command
2. Span of control
3. Homogeneous assignment
4. Delegation of authority
5. Flexibility⁵

In the specific case of a division control organization we can say initially that it is a structure shaped and staffed to function as a control organ for the conduct of command post exercises.

There are three basic staff organization that could be used for

¹Dictionary of U.S. Army Terms, op.cit., p. 270.

²Webster's New International Dictionary, op.cit., p. 1719.

³USACGSC, Subject A1010, Commander and His Staff-principles of Organization and the Commander's Management Functions, (USACGSC, Fort Leavenworth, Kansas, Sept 1963), p. L1-7.

⁴Ibid, p. L1-8.

⁵Ibid, p. L1-9.

a control group. These are:

1. General staff
2. Double deputy staff
3. Functional or directorate staff

a staff advises, recommends and performs those things a commander would do if he had the capability. Under the general staff concept the coordinating staff coordinates major functional areas for the commander.⁶ There is a coordinating staff and a special staff. The double deputy staff has a separate special staff, however, the coordinating staff is a two way division of all coordinating staff level responsibilities (Operations, administration). The chief of each division is designated a deputy. There is no chief of staff.⁷ In the directorate staff the special staff elements are integrated into the coordinating staff group. The coordinating staff officers may be designated as deputies or directors depending on the amount of authority delegated.⁸

It was suggested in Chapter II that the control group could be a staff similar to the division staff. The following references bore this out. The Chief Controller of the 3d Infantry Division control group for Exercise LITTLE ROCK indicated that the control organization should be similar to the player organization.⁹ The 3d¹⁰ and the 24th Infantry and the

⁶Ibid, p. L1-II-1

⁷DA, FM 101-5 (Draft), Staff Organization and Procedures, (HQUSACDC, Fort Leavenworth, Kansas, Jan 1964), p. 33, 34.

⁸Ibid.

⁹Wesley C. Fisher, Comments on CPX Control, 3d Infantry Division, (HQ 3d Inf. Div., APO 36, NY, 29 Jan 1964), p. 1.

¹⁰Headquarters 3d Infantry Division, Organization and Support of 3d Infantry Division Control Group for CPX LITTLE ROCK, (HQ 3d Inf. Div., APO 36, NY, 2 Jan 1964). Inclose #1.

3d¹¹ and 4th¹² Armored Divisions employed a general staff concept for their control groups which was similar to the division staff organization. The general staff structure was also used at higher level as in 1st Corps¹³ and USAREUR.¹⁴ Control groups for joint exercises also used a general staff type organization.¹⁵ Examples of the general staff type control organization are shown at figures 1 and 2. Figure 1 is a suggested division control organization published by 7th Corps. Figure 2 depicts a control organization of the 2d Armored Division for Exercise CLOVER LEAF III. Some control groups were organized similar to a double deputy type staff with logistics and operations being the two main subdivisions of the coordinating staff. An example of this is the control headquarters for Exercise CLOVER LEAF III shown at figure 3. The special staff of the Exercise CLOVER LEAF III control group is separate from the coordinating staff for some functions such as communications (signal). Other special staff elements, however, are integrated into the coordinating staff sections. There is also a deputy chief controller in the Exercise CLOVER LEAF III control staff which a double deputy staff does

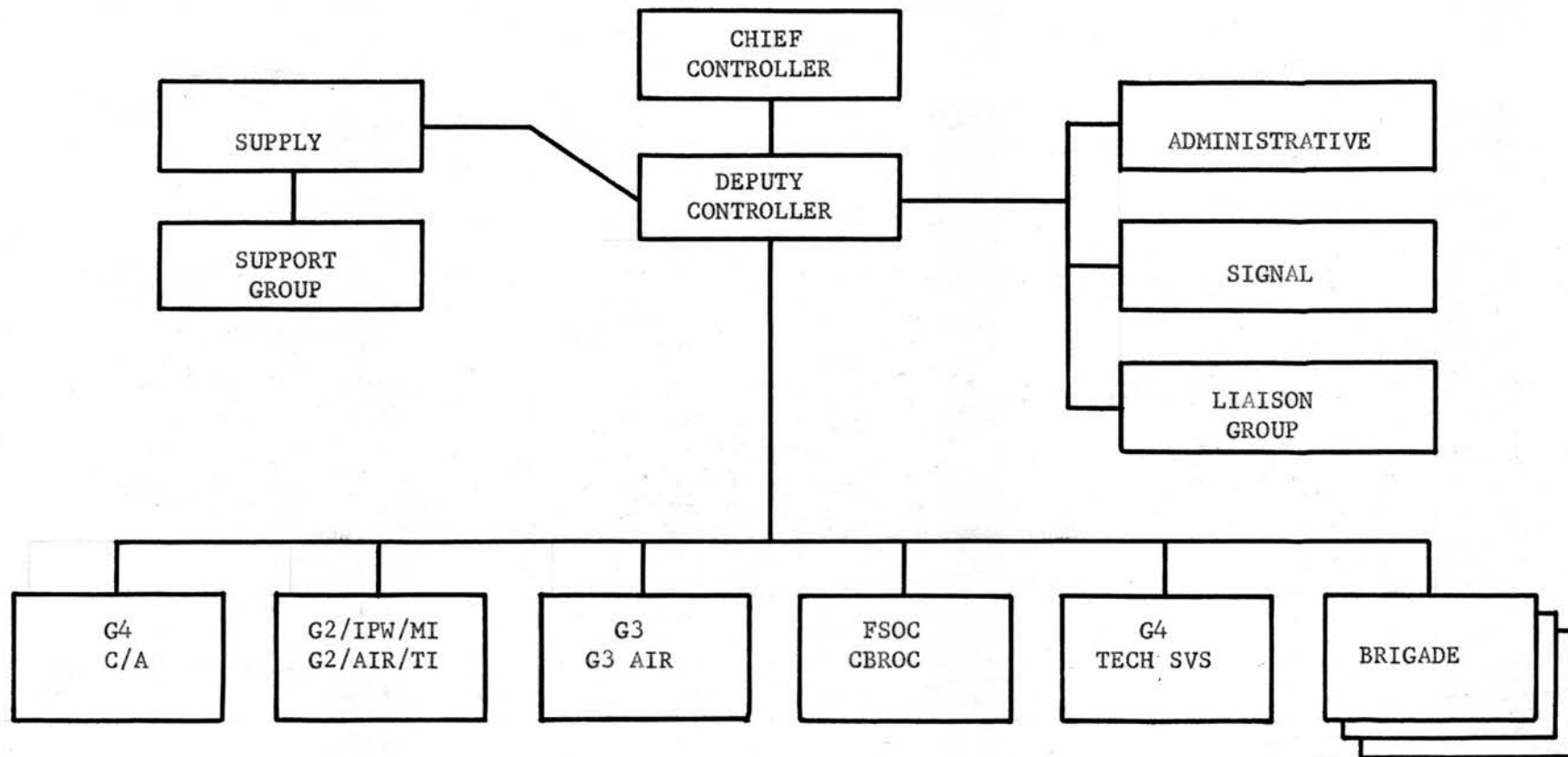
¹¹Robert F. Mayor, Comments on CPX Control, 3d Armored Division, (HQ 3d Armored Div., APO 39, NY, NY, 21 Jan 1964), Tab A to Inclosure 1.

¹²Lawrence S. Lodewick, Comments on CPX Control, 4th Armored Division, (HQ 4th Armd, Div., APO 326, NY, NY, 7 Feb 1964), p. 1.

¹³G. W. McIntyre, Comments on CPX Control, I Corps (Group), (HQ I Corps, APO 358, San Francisco, California, 24 January, 1964), p. 2.

¹⁴Headquarters USAREUR, SOP for Exercises, (HQ USAREUR, 23 July, 1962).

¹⁵HQ Joint TF CINCPAC, Exercise Directive, Exercise SHORE LINE and Final Report, Exercise SHORE LINE, (HQ Joint Army, Navy, Af, 28 June, 1962 and 2 November 1962), p. 21.



SUGGESTED DIVISION CONTROL GROUP ORGANIZATION

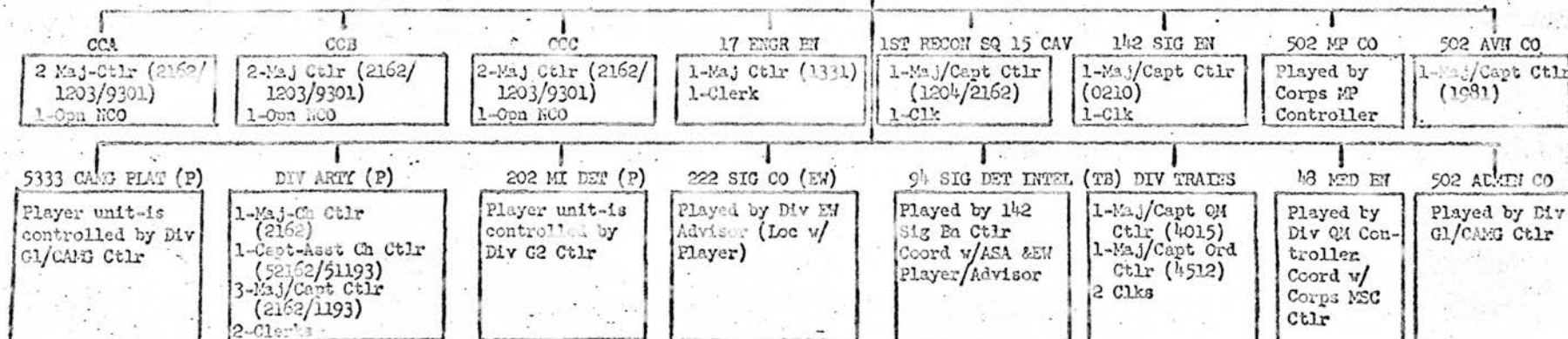
Figure 1

CONTROL ORGANIZATION

2D ARMORED DIV (P)

1-Col-Ch Ctlr (2162/1203)
1-IC/Maj-G1/CAMS Ctlr (8104/2260)
1-Maj-G2 Ctlr (9301)
1-IC/Maj-G3 Ctlr (2162)
1-Maj/Capt G2/G3 Air Ctlr (2163/9304)
1-IC/Maj-G4 Ctlr (4010)
1-Maj-Chl Ctlr (7314)
3 Opn NCO

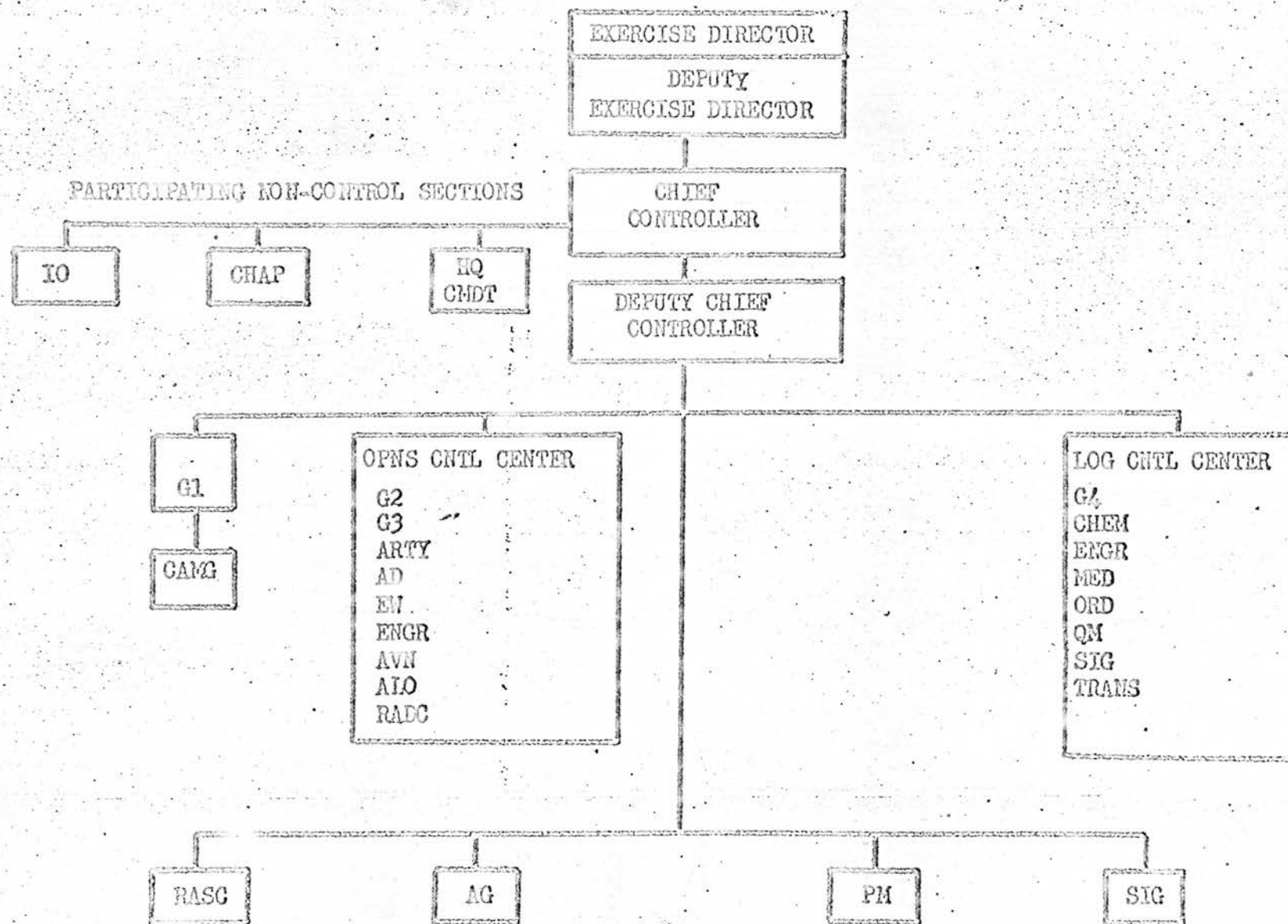
* One (1) to be Special Weapons Qualified.



(P) Denotes Player Unit

Figure 2

ORGANIZATION OF CONTROL HEADQUARTERS, EXERCISE CLOVER LEAF III



NOTE: Aggressor Headquarters and ASA control included within G2.

Figure 3

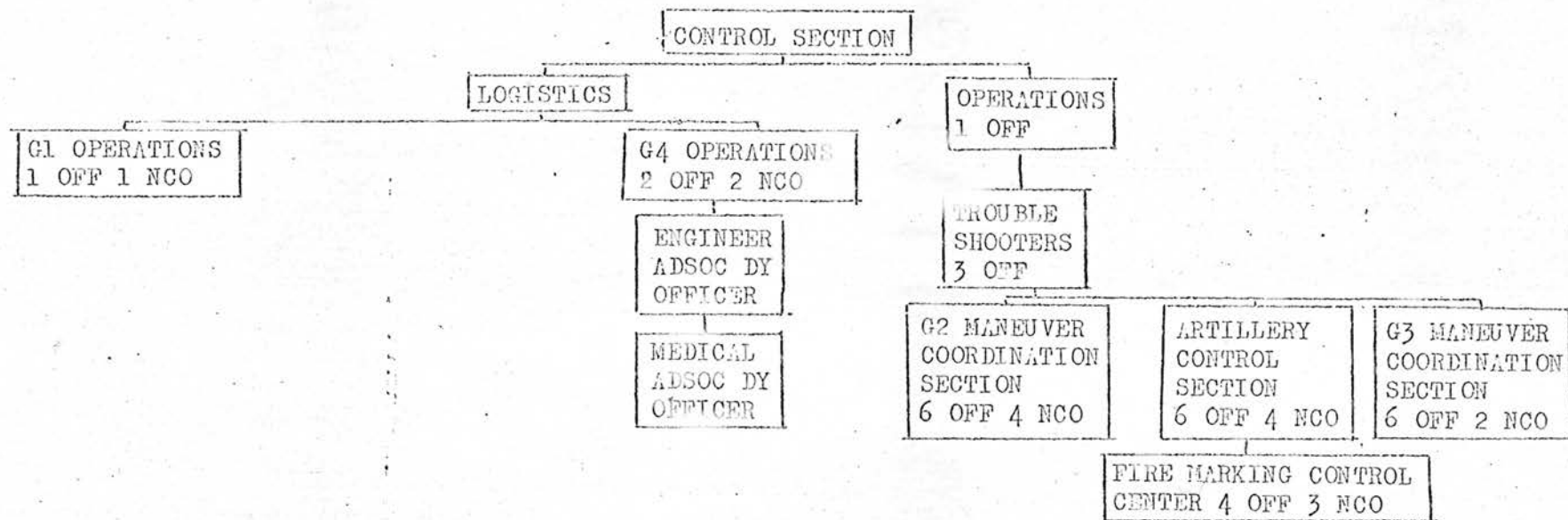
FIGURE 6

not have. This hybrid staff where there is a combination of types of staff structures is encountered frequently among control organization. At figure 4 is an example of a directorate oriented staff. There is a deputy for operations and the special staff is integrated into the coordinating staff. However, this is also a hybrid staff in that the G1 and the G4 are separate entities and there is no deputy for logistics.

The 4th Armored Division control staff shows yet another organizational variation as indicated as figure 5.¹⁶ The special staff of the 4th Armored Division control group is integrated into the coordinating staff, but there is a deputy chief controller and the normally configured general staff. An example of a general staff type staff structure in use above division level is shown at figure 6. This is the Seventh Army suggested organization for use by subordinate control groups.¹⁷ Note that the staff is grouped into tactical and administrative elements, however, there is no subordination of one section to another or integration of them to form a logistical or operations branch or division of the control group. The special staff sections are not subordinated to the general staff sections but are, organizationally at least, on a par with them. Another fact to note is the separation of logistics from operations physically; the logistics function being located at the 7th Army Rear Control and the operations function located at Main Control. Referring to figure 6, the engineer, chemical, and transportation sections are split. The 7th Army control organization brings out an organiza-

¹⁶Lodewick, op. cit., p. 1.

¹⁷Seventh Army, Standard Control Reference Data, (HQ Seventh Army, 17 August 1962), p. 2.



Recapitulation

29 OFFICERS
17 NCO

Figure 4

4TH ARMORED DIVISION CONTROL ORGANIZATION

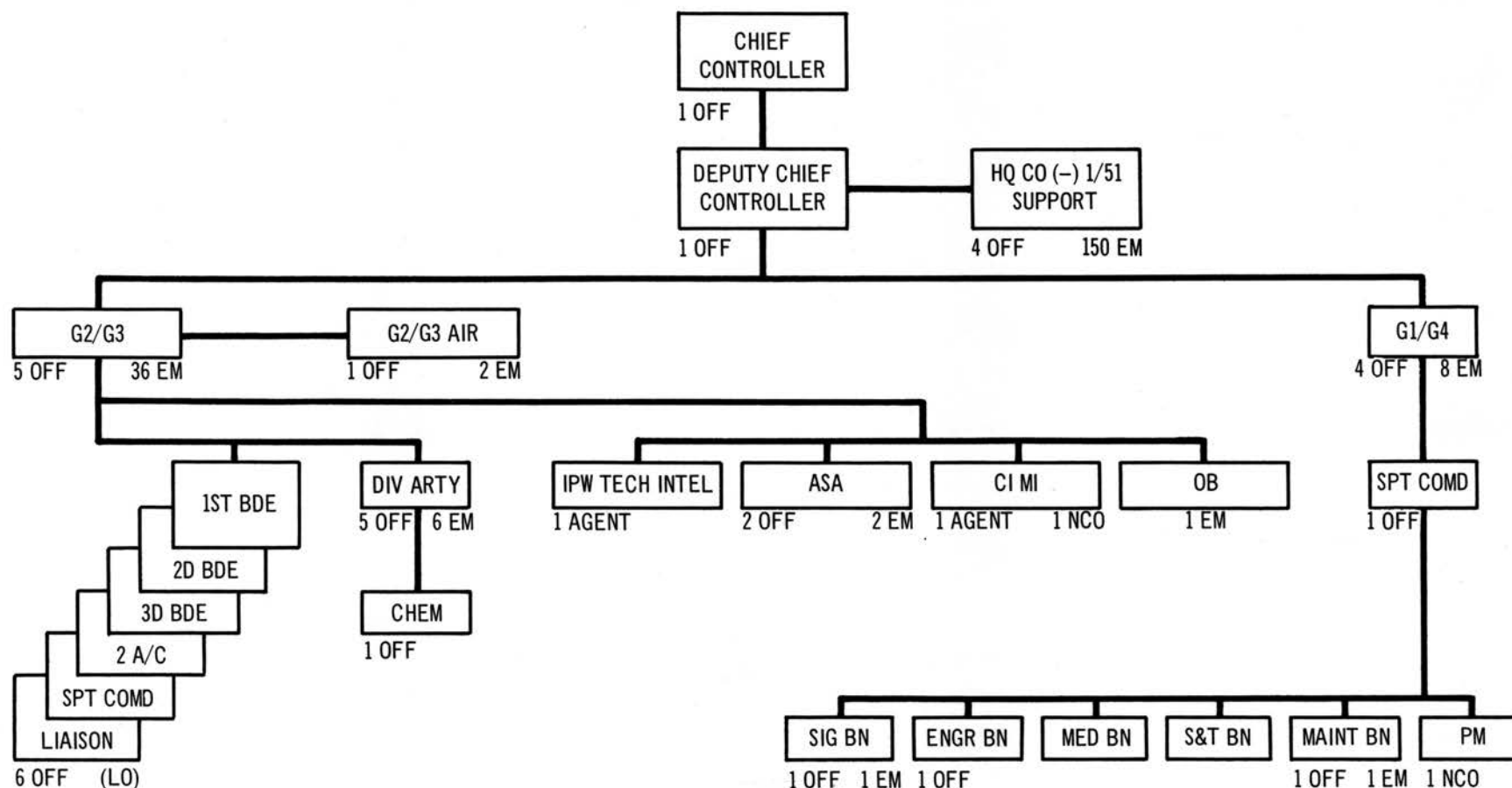
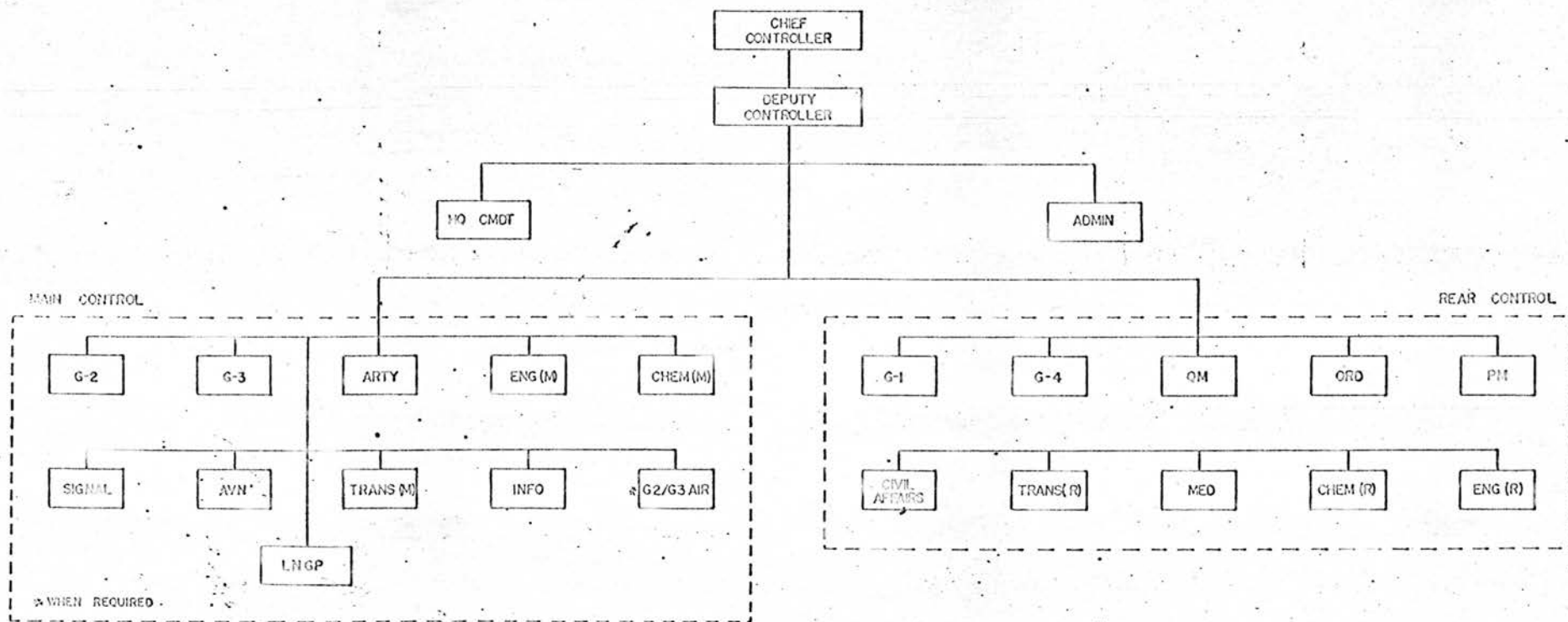


Figure 5

ANNEX A(CONTROL ORGANIZATION) TO STANDARD CONTROL REFERENCE DATA FOR COMMAND POST EXERCISES



ANNEX A(CONTROL ORGANIZATION) TO STANDARD CONTROL REFERENCE DATA FOR COMMAND POST EXERCISES

Figure 6

tional principle. Staffs operate in echelons. The control structure must allow for echelonment. When a staff is echeloned there must be cross representation between echelons. For example the logistic staff functions are located in most cases at the support command and the controller should be co-located with his player counterpart. Nevertheless, logistic representation is necessary at the main control center in order to properly control problem play. The control organization must be flexible enough to properly staff command post echelons where required. 7th Corps, as an example, during Exercise GRAND SLAM II, had a split control group during conduct of the problem. The general staff sections were located at main control with the special staff sections concerned primarily with logistic play located at rear control plus representation from the general staff sections to correlate play. This was achieved only because the chief controller insisted on having sufficient depth in his organizational structure. At division most activity takes place at the main CP. However, there is still a need for controller representation at the Support Command and also at the tactical CP which is in almost constant use at division level. Parallel control and player organizations are necessary to exercise player personnel to the maximum. In order to adequately give practice in a specific area or function of the player staff that function must be exercised by the control group. This is normally done by a controller or control section located in the vicinity of the player.

It has been established that the control staff must reflect the functional areas of the division staff and it must have depth and flexibility. The structure of the control staff, however, can vary from that of the

division and still accomplish its purpose.

The general concept of the division level control organization has been analyzed. Now the various groupings within a staff such as command, operations, logistics, the special staff and administrative support will be studied.

Command Group

The command group for the control staff carries out the same functions, generally, as the division chief of staff. The Chief controller does make decisions but only within the framework of the guidance proffered by the CG and the Exercise Director. The Exercise Director may be the CG or ADC, but in any case they are more casually connected with the supervision of the control group than is the chief controller. While the chief controller may, in some units, be the ADC or CG, in the context of this paper he is considered the person who actively supervises the control staff. Most control staffs also include a deputy chief controller. The 3d and 4th Armored, 24th and 25th Infantry Divisions use one or more deputy chief controllers on their control staffs. The number of deputies depends on the size and type of the control staff. Since the division control group probably will not have more personnel than a line rifle company, one deputy in the chain of command would suffice unless the directorate or double deputy staff structure is used. A deputy is definitely needed for the supervision of detailed coordination between staff sections and particularly to supervise the administrative and supply officers or their equivalents. If more than one deputy chief controller is utilized, the personnel requirements are increased and another layer of con-

trol is added to the staff.

Operations

Intelligence

The intelligence function is of the highest importance within control if it includes the responsibility for the development and play of aggressor operations. The large majority of units who answered a query on this matter, indicated that the G2 section within control had the responsibility for aggressor operations.¹⁸ It is logical that the personnel who are the most knowledgeable concerning aggressor tactics, organization and doctrine should develop the aggressor scheme of maneuver and play the aggressor forces during the exercise. This may lead to confusion as the following quotation indicates.

"One of the most confusing aspects of CPX control is the fact that because the 'enemy' is represented by the control group, the G2 winds up being the primary control staff member at all control echelons. G3 simply keeps track of the Blue Force and is not in truth the operations man for the control side."¹⁹

To emphasize the primacy of intelligence concern with control the 3d Infantry Division appointed the division G2 as the chief controller for a recent CPX (CPX LITTLE ROCK).²⁰ Some control organizations used the directorate system to integrate the efforts of the G2 and G3.²¹ (see figure 9). However, there are various functions within the intell-

¹⁸Andrew M. Rutherford, Command Post Exercise Control Questionnaire (USACGSC, Fort Leavenworth, Kansas, 10 January 1962), p. 6.

¹⁹Mayor, op. cit., p. 3.

²⁰HQ 3d Infantry Division, op. cit., p. 1.

²¹Mayor, op. cit., Tab A to Inclosure 1, p. 1.

intelligence field that do not lend themselves to integration. Counter intelligence, TI and IPW play are examples of such functions.

The form of the intelligence section will be determined by its functions. Intelligence has the responsibility for aggressor play. This includes the planning of aggressor operations including guerilla operations and agent activities. Aggressor agent activities, since they bear less of a direct relation to activities of the conventional and guerrilla aggressor forces, and handled as a separate function within the G2 section. Conventional and guerrilla force play is planned and executed as a distinct function. Order of battle is also a part of the aggressor play function. The order of battle function involves the recording of the list and location of units, and the necessary statistical data for realistic employment. Necessary data includes unit combat effectiveness, unit history, organization for combat, logistical data (principally ammunition and POL, location of dumps and available transport), air support, artillery support and nuclear allocation.²² The execution of the order of battle task may require a separate order of battle section within the operations branch. Branches are formed within the intelligence section based on function. G2 air or combat surveillance encompasses such agencies as the Air Force, Army Aviation, drones and FOI. Close-in agents employed by FOI are capable of collecting all types of information in rear areas. This play, therefore, is better supervised by the combat surveillance section. ASA play, because of the distinct type of play required and security involved, could be handled separately from combat surveillance.

²²Headquarters 7th Corps, Guide for Controller (HQ 7th Corps Moerhingen, Germany, June 1962), Annex F, p. 1.

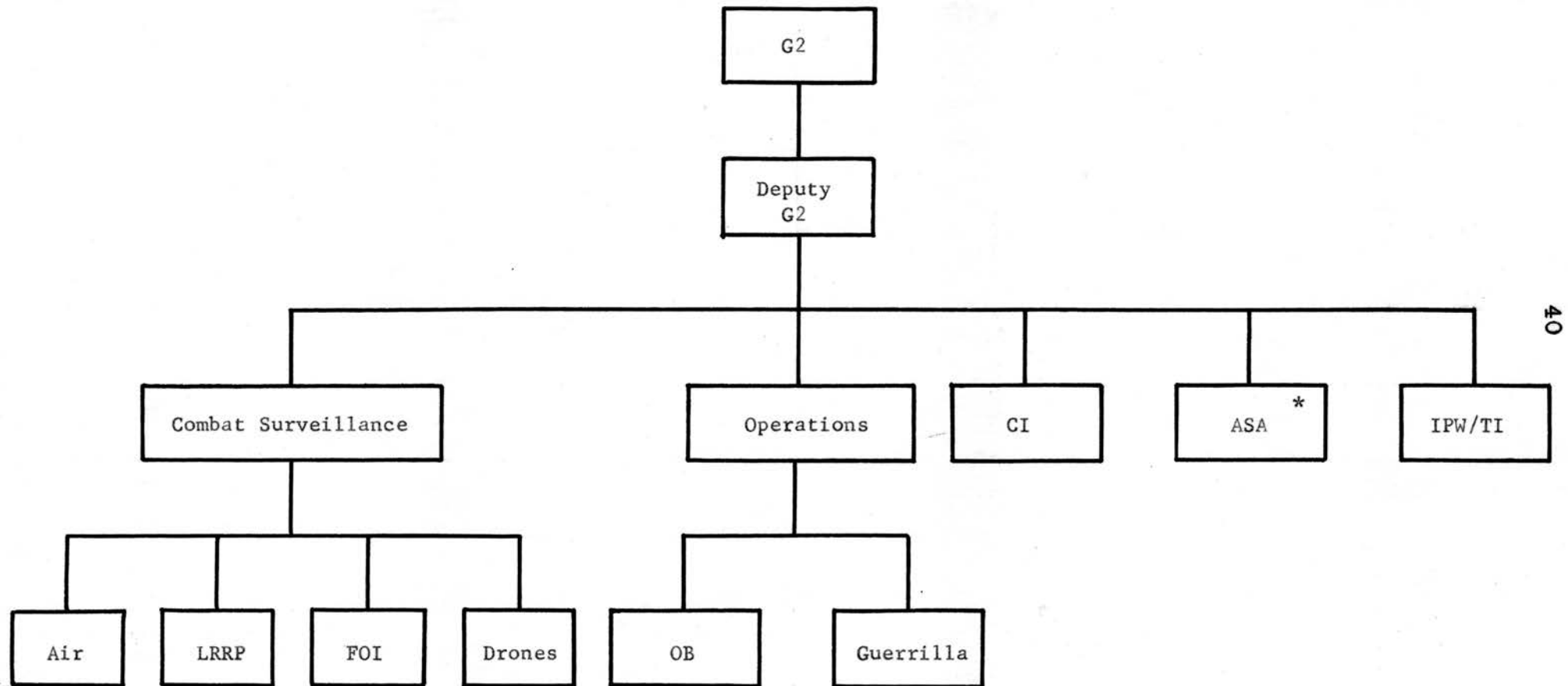
Long range reconnaissance patrol, should also be managed as part of the combat surveillance function. Finally, the IPW/TI branch represents the division IPW, TI, and document translation capability.

A type G2 section is shown at figure 7. Note that the ASA function could very well be brought under the combat surveillance section. There is a nuclear target acquisition function within the division G2 section that is vital to exercise. This is handled by the combat surveillance section of G2 control, as is evidenced by the agencies that it handles. All of these agencies are capable of acquiring targeting information. The combat surveillance controller can easily coordinate the confirming of a target by more than one source. The operations section is freed from the routines and the play of specific agencies and can concentrate on the manipulation of aggressor forces. The organizational principles of span of control, homogeneous assignment and unity of command are evident in the proposed G2 section. This proposed intelligence section does not indicate that a conclusion has been already reached that a general staff type organization is preferred. The type G2 section is considered the optimum staff structure to carry out the control intelligence function.

G3

The G3 section when considered separately and not as a part of another staff groupment has the responsibility for representing simulated friendly units including higher and adjacent headquarters, control training, insuring that exercise objectives are obtained, preparation of the control directive, and friendly air support play. The G3 coordinates closely with all staff sections, particularly the G2, to carry out his designated functions. The G3 may also have some special staff sections directly under

G2 SECTION



*ASA can be placed under Combat Surveillance

Figure 7

him that carry out functions for which he has coordinating staff responsibility.²³ Since other staff sections have areas of responsibility that include functions of these special staff sections it is not organizationally efficient to have special staff sections subordinate to a specific staff section. However, most divisions do this in order to conserve personnel.²⁴ The 3d Armored Division used such a system, but commented that "the organization lacked depth, particularly with inexperienced personnel."²⁵ USAREUR also groups special staff sections under general staff sections; however, there is special staff representation under more than one general staff section.²⁶ The 4th Armored Division put most of the special staff sections under the support command controller. At division level most units placed the special staff functions either under the support command controller or a general staff section. Units felt that this method of organization was better due to the paucity of personnel, the requirement for close coordination and the need for close supervision of less experienced controllers. Exercise planning, exercise operations, control operations and control training are handled within the operations portion of the G3 section. G3 air is a separate function.

The G3 controller has primary interest in the tasks carried out by the following special staff sections and may have them subordinated to

²³Headquarters 7th Corps op. cit., p. 3.

²⁴Mayor, loc. cit.

²⁵Ibid., p. 2.

²⁶HQ USAREUR, op. cit., Tab A to appendix 1 to annex C.

him:

1. Engineer
2. Signal

Some divisions also put artillery, aviation and chemical sections under the G3, but these areas are of as much concern to other staff sections as they are to the G3 from a control standpoint.²⁷ placing them under the G3 would tend to slow down coordination and might even hurt exercise play through over-emphasis in G3 areas of interest.

A proposed G3 section is depicted at figure 8. It is simple, yet includes requisite special staff functions as either branches or special staff sections. Note that these branches are not subordinate to the operations branch. The proposed section is a proper groupment of operations functions. The engineer and signal functions are included in the operations section because almost their entire function during the conduct of control is part of the G3 area of responsibility. They are organized as separate sub sections to facilitate coordination with other staff sections.

Combined Operations Organization

As was stated previously, some units prefer the grouping of the G2 and G3 together as a large operations section. This section can be either a directorate, or merely a closer grouping of the separate G2 and G3 functions. One third of the personnel or units answering the CPX control questionnaire remarked that their control staff was organized such

²⁷Headquarters 7th Corps, op. cit., p. 3.

G3 SECTION

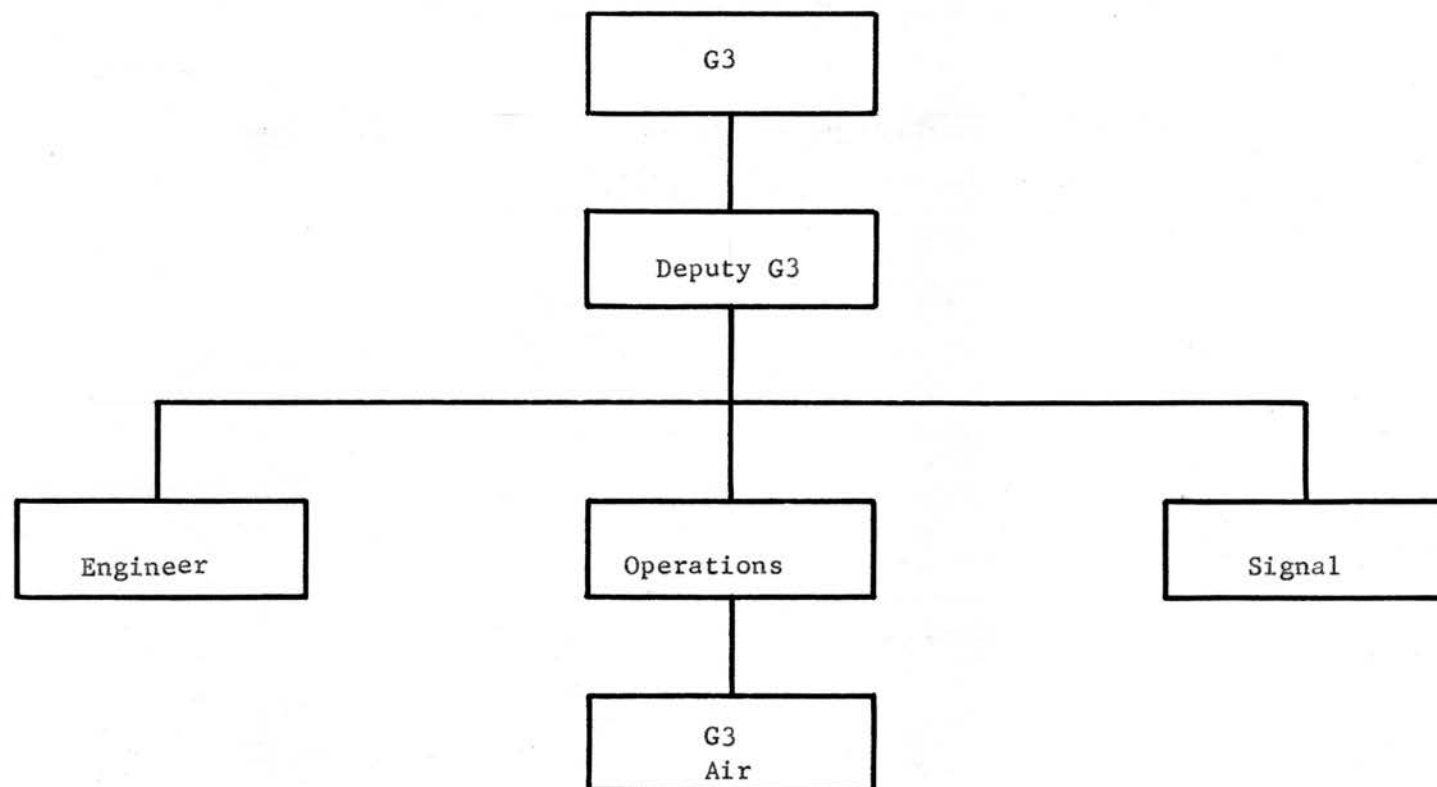


Figure 8

that there were two major staff elements, operations and logistics.²⁸ About half thought that there should be a staff chief over the section rather than have one of the general staff sections exercise control (double deputy).²⁹ The 4th Armored Division³⁰ (figure 5) and 3d Armored Division³¹ (figure 9) use such control organizations. The 3d Armored Division organization at figure 9 is a true directorate staff. (In recent exercises the 3d Armored Division used two types of staffs for its control group -- the general staff and the directorate staff).³² As depicted in figure 9, under the Director of Tactical Operations are three groups; Blue Force, Orange Force and Weapons group. Under the Weapons Group are tactical air, artillery and nuclear weapons. The Director of Support Operations had two groups subordinate to him; the Personnel Group and the Logistics Group. All special staff sections with the exception of engineer, signal and artillery were under the Support Operations Directorate.

The combined operations section organization interposes another layer of control or supervision between the chief controller and the working staff. The Deputy Chief Controller for Operations or Logistics, under this organization must supervise the G2 and G3 or a homogeneous group of operations personnel. The great advantage in this staff system is the

²⁸Rutherford, op. cit., p. 2.

²⁹Ibid.

³⁰Lodewick, op. cit., p. 11.

³¹Mayor, op. cit., Tab A to Inclosure 1, p. 1.

³²Ibid.

THIRD ARMORED DIVISION CONTROL ORGANIZATION

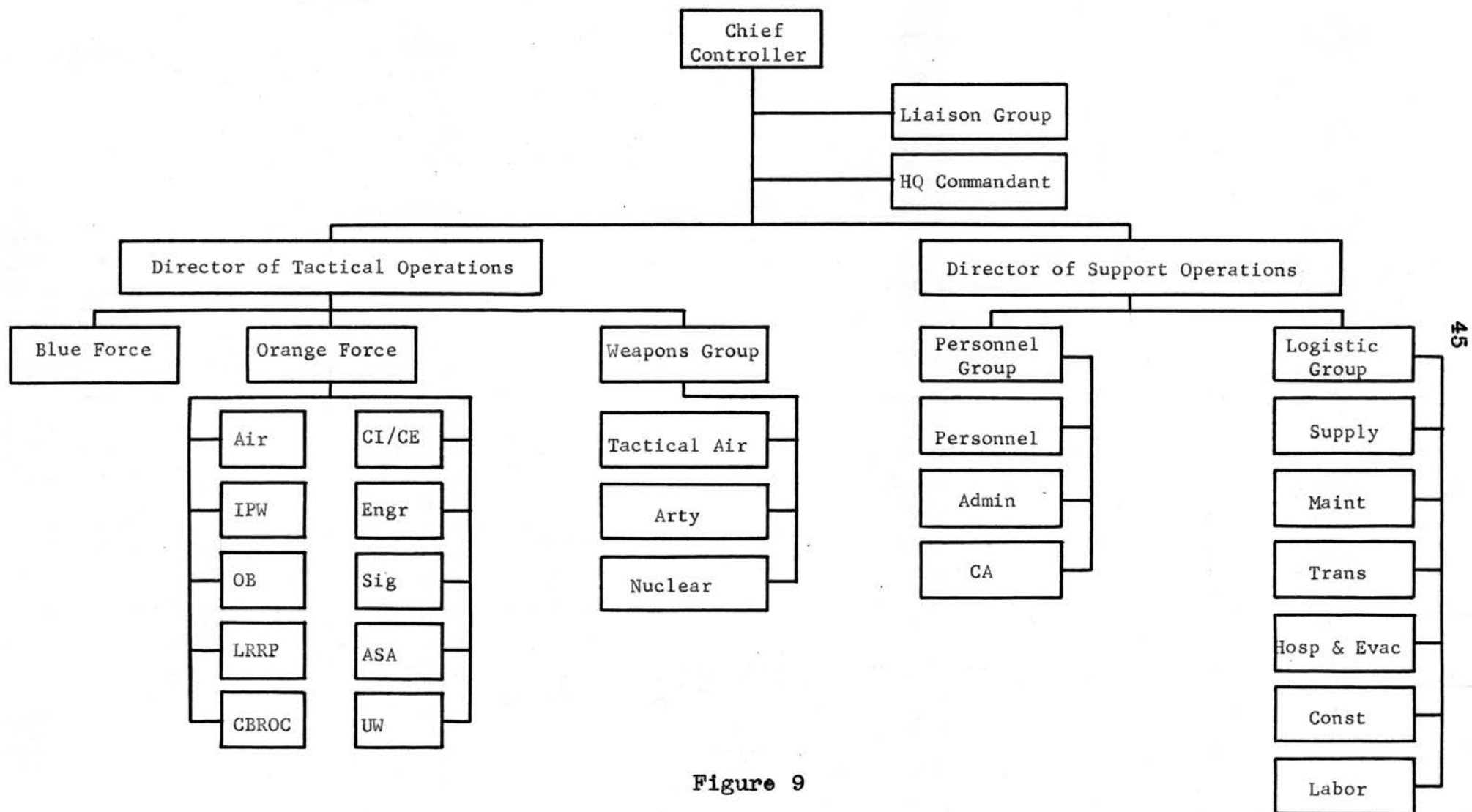


Figure 9

built in coordination of operational matters and a single directed operations effort. Disadvantages of the organization are that it reduces opportunity for coordination between branches of both main section of the coordinating staff and tends to reduce the correlation of logistical play with tactical operations. The assessment function is not readily accessible to which ever section lacks it. The insertion of another echelon of supervision is not conducive to optimum use of manpower and impedes access between the chief controller and the operators. In the double deputy type staff, if the deputy chief controller for operations is not qualified in both intelligence and operations the direction of emphasis will favor one aspect of the exercise unduly. Vital areas will not be given the proper attention and the exercise will suffer because of it.

Logistics

Personnel

The personnel function concerns exercise play that primarily affects the division G1. Personnel tasks of the control group include strength tabulations and personnel loss assessment. At division level there is normally not a G5 on the control staff. Often this responsibility is given to the section responsible for the personnel function rather than to the G3 section since it involves rear area play for the most part. 7th Corps, 2d Armored and 3d Armored Divisions (see figures 1, 2, and 9) specifically directed that the civil affairs function be placed within the G1 section.

The G1 in many control organizations has the responsibility for strength tabulation (both friendly and aggressor in some cases) and total

loss assessment. Assessments come from several sources. Losses from ground combat including small arms and tank fire emanate from unit controllers. Losses due to conventional artillery come from the artillery controller. Losses due to nuclear weapons are supplied by artillery special weapons officers and the chemical section. The chemical section will also supply loss figures due to CBR attacks. Specific air strike losses will be given by the G2/G3 air. There is a multiplicity of loss information coming from several different sources. This loss data must be recorded and the player kept informed, particularly with regard to his own units. This information has to be collated by a single agency in order to be meaningful. The G1 controller, from the very nature of his regularly assigned responsibilities, is concerned with strengths. Also, he produces casualty data for non battle losses and average over-all strength degradation for units. The personnel controller, therefore, logically would be the one to have the overall responsibility for personnel loss assessment. The 3d Armored Division and the division designated control organization for Exercise BIG BLAST XII and XIII, however, had separate assessment groups (see figure 10).³³ While the collation of personnel loss assessments should be centralized, the sources of loss information cannot and should not be amalgamated. More efficiency and less proliferation of separate sections results from placing the personnel loss assessment and tabulation function under the G1 section.

About half of the personnel and units who filled out the CPX Control

³³HQ 5th Army, Control Handbook, Exercise BIG BLAST XII and XIII (HQ 5th Army, Chicago, Illinois, 30 December 1963), p. 38.

INFANTRY DIVISION CONTROL TEAM

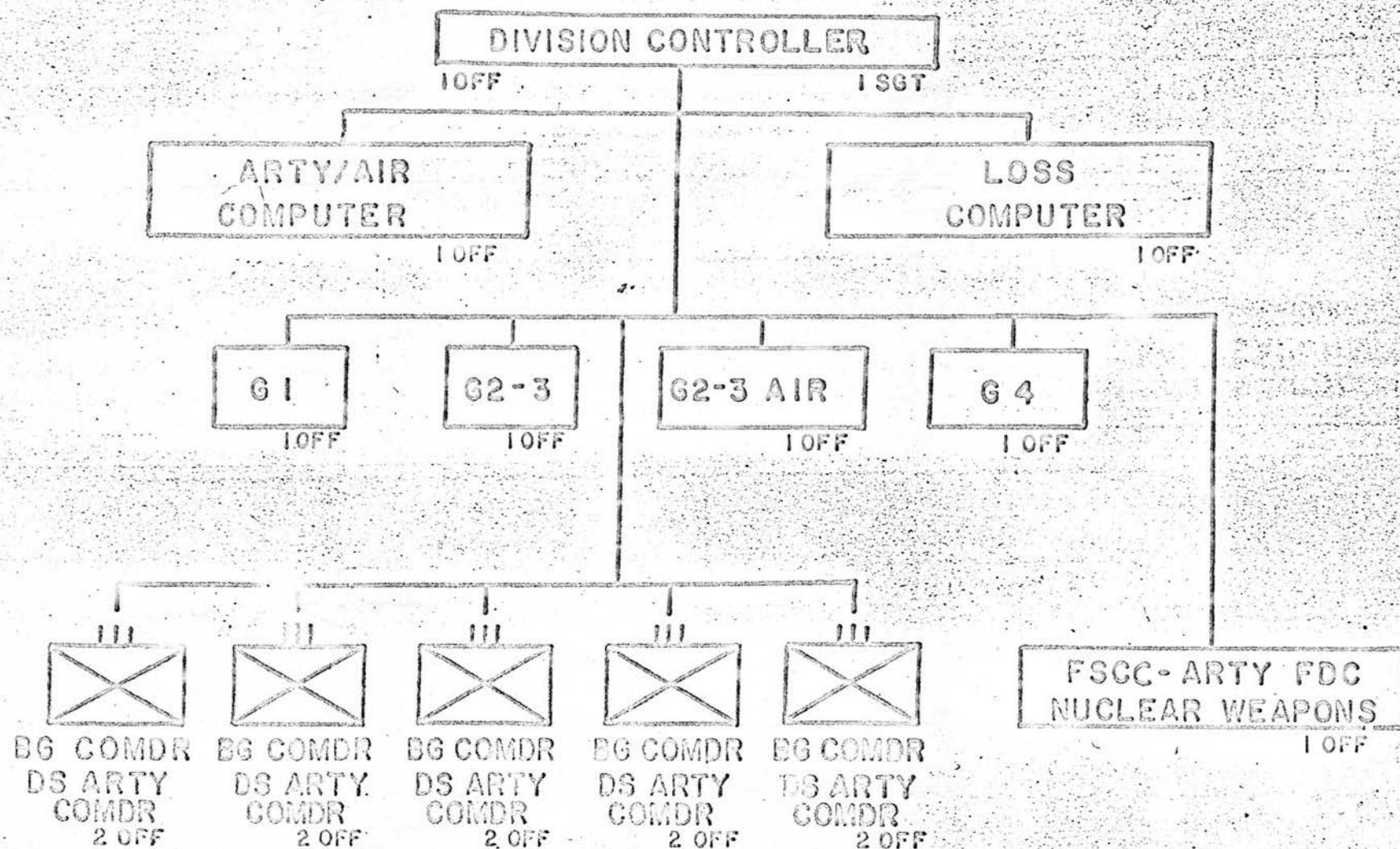


Figure 10

Questionnaire indicated that their G1 controller did have special staff sections subordinate to him. These included, by percentages:³⁴

PM	55%	SJA	10%	SS	15%
CA	15%	IG	10%	Chap.	25%
GRREG	5%	AG	30%	HQ Cmdt.	5%
IO	5%	Fin.	10%		

The significant percentages include PM, AG and the Chaplain. The PM is logically located within the G1 section because most PM play on a CPX falls within the coordinating staff responsibility of the G1. While the other special staff sections listed above certainly have fields of responsibility of concern to the G1, at division level it is questionable whether the problem play would warrant a specific branch or section, for each special staff function. About 90% of units and personnel with control experience queried indicated that the G1 section of their control group was adequately organized.³⁵ The overwhelming majority also stated that the G1 was not responsible for administrative support of the control group. This is valid in that control staff members cannot be concerned with such incidental duties and properly perform their required tasks.

A proposed G1 section is shown below:

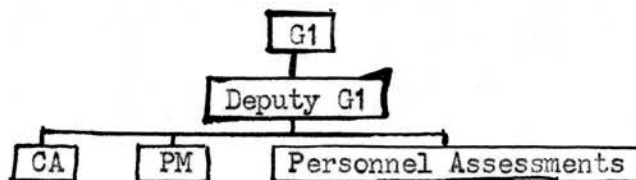


Figure 11 -- Proposed G1 Section

³⁴Rutherford, op. cit., p. 5.

³⁵Ibid.

G4

The G4, like the G1, has control functions that closely parallel those of the division G4. These functions deviate little, if at all, from those of the division G4, other than the duty of presenting the combat service support situation to the players. The G4 controller also represents non playing combat service support units and the combat service support activities. Because of the several technical services and combat service support facilities and associated agencies for which the G4 is responsible, his control task is of considerable magnitude from this standpoint alone.

Certain control groups gave the G4 control over specific special staff sections. This is done at division, corps and army level (3d Armored Division, 7th Corps and 8th Army). The 25th Infantry and 4th Armored Division, on the other hand, placed the technical service special staff sections or representatives under the support command controller. These functions are located within the division support command. In the field this installation and its personnel are separated from the main CP where the general staff is located. It follows that these sections should be under the support command controller with representation at the main CP under the G4.

Most controllers felt that the technical service special staff sections or personnel having functions within the area of responsibility of the G4 should be subordinate to the G4 section.³⁶ Subordination to one staff section makes coordination within these areas easier and quicker.

³⁶Ibid., p. 9.

Several functions represented by special staff sections at higher levels may not have a specified technical service representative at the division level but will be managed by the G4 or one of his assistants. There are many special staff functions that are within the G4 area of interest. Due to type and amount of play only special staff sections of primary consideration at division level are represented on the control staff. The division control organizations, depicted at figures 2, 5 and 9 show no technical services but have representation for so called functional activities such as supply, maintenance, transportation and hospitalization and evacuation (see figures 1, 4 and 6 for examples of technical service representation on control staffs). Some divisions did have specific technical service representation. The 82d Airborne Division included medical representation for the control group governing CPX TUNE - UP.³⁷ It is definite from the various control organizations studied that there is little need for technical service representation at division level with the possible exception of a medical controller.

Combined Logistics Organization

The same rationale applies to a combined logistics section as it does to a combined operations section. A combined logistics section is not considered desirable for the reasons advanced previously concerning a combined operations section.

A typical G4 section is shown at figure 12. All of the branches shown have enough problem play connected with them to warrant special

³⁷HQ 82d A/B Div., Exercise Control Plan, CPX TUNE - UP, (HQ 82d A/B Div., Fort Bragg, N. C., 22 January 1964), Sec. I, p. 3.

G4 SECTION

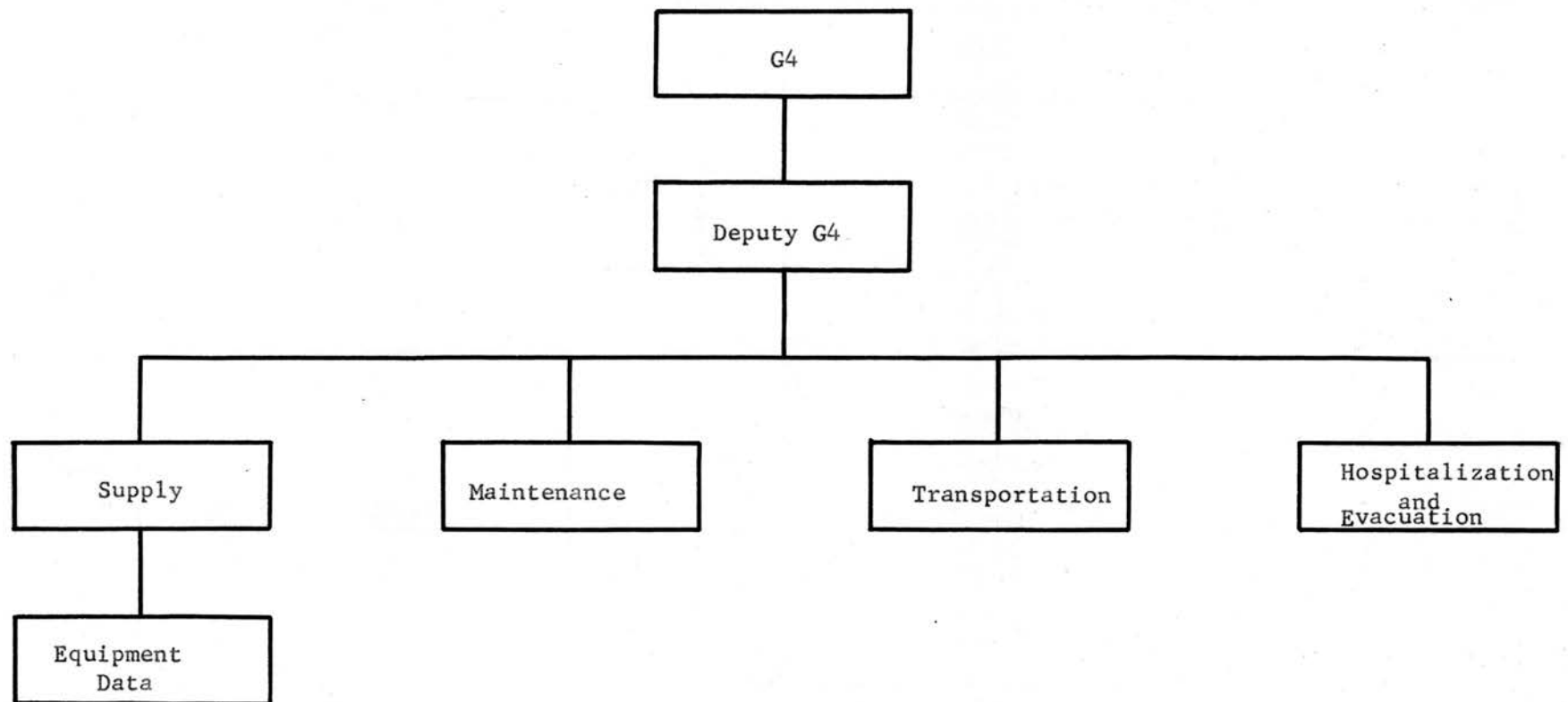


Figure 12

controllers in those areas. Activities such as construction and labor do not receive sufficient play at division level. Therefore, they are handled as an additional duty of a G4 controller. Another possibility is to put these sections under the support command controller. However, the G4 still has the coordinating responsibility and must have assistance.

Another aspect of the G4 organization is the requirement for equipment strength tabulation. While this will generally pertain to only the friendly units he may also keep data for the aggressor forces. The data compilation task is assigned as a subsidiary to the supply function, since the supply controller must know current equipment status in order to perform his job. The same analysis given to the G1 personnel loss tabulation mission applies to the G4 with regard to equipment. Data comes from the same sources as for personnel loss assessments.

The control survey elicited some pertinent information regarding the organization of the G4 section. While 90% of the responders indicated that their G4 control organization was adequate, almost 30% disclosed that the G4 **was** charged with the responsibility for logistic support of the control group.³⁸ The additional requirement for the G4 is not conducive to an adequate control performance by G4 because it diverts his attention from his primary mission. 40% of the questionnaire responders stated that **combat service** support play did not properly exercise player personnel.³⁹ This condition was probably caused at least in part by this divergent G4 responsibility.

³⁸Rutherford, op. cit., p. 9.

³⁹Ibid.

Special Staff

Portions of the special staff have previously been discussed insofar as they concerned each general staff section. Only those special staff sections not analyzed before will be touched on at this time. The many division control organizations studied reveal that the special staff representation is kept to a minimum. Engineer, chemical and signal sections were the only special staff section included in **almost** every division control staff. Artillery representation, usually in the form of a separate section is present on all control staffs. This artillery section is not to be confused with the division artillery controller. They represent different control functions.

It is of interest to list the special staff representation that prevails on control staffs at high levels.

Signal	ASA	QM
PM	Engineer	Aviation
Ordnance	Medical	Maintenance & Supply
Artillery	Civil Affairs	AG
Chemical	Transportation	CI
Armor	ANGLICO	Chaplain
Finance	Comptroller	WAC
JAG	Information	

While the above functions are present for the most part at division level, the basis does not exist for separate representation on the control staff. The following special staff sections carry out primary control tasks at division level and should be a part of the control structure:

Artillery	Engineer
Signal	Chemical
PM	Civil Affairs
Medical	

(Artillery and civil affairs are treated as special staff sections because their professional and technical fields of interest are more narrow than those of the coordinating staff sections at division level).

Administration Section

The administrative function of the control group which includes all aspects of logistic support for the staff may be carried out in one of three ways. The first method is for an administrative section to be established within the control group.⁴⁰ The second method is for a designated unit commander to furnish the necessary support.⁴¹ The third method is for those control organization that are satellited on battalion or brigade staffs to use their organic support means.⁴² The organization for administration is different for each case.

The support mission can be divided into two areas; physical support such as supply, facilities and transportation, and administration consisting of finance, typing, security, files and billets.

The advantages and disadvantages of making the administrative section part of the control group structure are:

⁴⁰HQ 7th Corps, op. cit., Appendix 1 to Annex B.

⁴¹HQ 3d Infantry Division, op. cit., p. 2.

⁴²Charles F. Drake, Comments on CPX Control, Personal (CPX Control survey, USACGSC, Fort Leavenworth, Kansas, 10 January 1964), p. 1.

Disadvantages:

1. Support personnel may not be familiar with their surroundings hindering their ability to obtain services, supplies and personnel.
2. Personnel will be new to each other and will not have developed team work initially.

Advantages:

1. Easier to supervise EM assigned to administrative section.
2. Files, especially if there are classified documents involved, require close supervision.
3. More responsive to control staff requirements.
4. Section tailored especially for its mission, hence more efficient.
5. Enhances continuity of effort. Personnel once assigned will remain with section.
6. One mission to carry out.

If a unit is designated to support the control group the following advantages and disadvantages accrue.

Advantages:

1. Organization already formed and working relationships established.
2. Ready source of manpower when needed.

Disadvantages:

1. Divergence of interest -- may have other missions to also perform.
2. Not as responsive to control group requirements as in the

first case.

3. Lack specially trained personnel in necessary quantities such as file clerks, typists and document custodians.

4. Low level of experience in certain aspects of administration such as funding, budgeting, TDY procedures and document security.

The advantages and disadvantages of utilizing organic support means of the headquarters upon which the control group is satellited are as follows:

Advantages:

1. Organization already in being.
2. Ability to rapidly obtain services and supply.
3. Organization designed for support.

Disadvantages:

1. Divergence of interest -- may also support other elements than the control group.
2. Not organized specifically for task.
3. Lack especially trained administrative personnel in quantities required.
4. Not as responsive to control group requirements as in the first case.

Placing the administrative support function within the control organization offers greater advantages and fewer disadvantages than the other two organizations for support of the control group.

The other two methods have their advantages, however, the nature of much of the administrative job such as classified documents custodian and publisher of the control group directives, reports and instructions is

quite different from that carried out by a headquarters commandant or a unit commander. The need for knowledge concerning comptrollership and the handling and safeguarding of classified documents indicate that an AG experienced officer would be the best suited for the job. These types of duties cannot be handled properly by the headquarters commandant or unit commander in addition to his other duties. If there is but little time in which to prepare for an exercise then an organization in being would be better able to manage the combat service support of the control group. In any case, the administrative as contrasted to purely combat service support tasks are better managed by a section organic to the control group.

The Use of Existing Staffs

Some divisions designated a particular unit, usually a battalion, to form the control group utilizing the unit staff of the battalion as the control staff nucleus.⁴³ The commander's portion of the final report for Exercise COULEE CREST, a joint STRICOM exercise, contained this commendation:

"Staffs for Director Controller Headquarters be obtained by employing existing organizations as cadre bases, to avoid the initial organizational difficulties inherent in developing new staffs. For example, an army division and a numbered Air Force might jointly be assigned the mission of creating a Director Controller staff."⁴⁴

In the above case a new staff would have to be created even under the proposed mission assignment. An existing battalion or brigade staff can

⁴³Robert F. Mayor, op. cit., Tab A to Inclosure 1, p. 1.

⁴⁴Director Controller HQ, Final Report for Exercise COULEE CREST, (HQ US STRIKE Command, 23 May 1963), p. 13.

be used to control a unilateral army exercise. The 1st Battalion 5th Infantry was used for this purpose during Exercise GRAND SLAM II to control the 4th Armored Division.

The battalion that is designated as control headquarter does not participate as a playing unit, however, the staff receives plenty of training in staff procedures as controllers. Staff personnel at battalion level generally have not had experience at division level. This presents a serious draw back to this method of organizing for control. Most divisions chose to create a separate control staff by bringing individuals together at division level from both the division staff and subordinate units.

Another type of existing staff is the permanent control group. The permanent control staff is an organization that is part of the division headquarters. These permanent control staffs are found, for the most part, at higher headquarters. They are used in order to promote efficiency and continuity in the control of exercises. Whether the division can afford the luxury of such an organization is a moot point. The G2 section with its attached Military Intelligence Detachment has enough personnel with which to form the nucleus for a control group. Even one officer could serve as a vital nucleus of the division control group. Many advantages are inherent in a permanent control staff. They are:

1. Continuity
2. Availability of records
3. Availability of references
4. Availability of materials such as office supplies
5. Standardization of procedures

6. Greater efficiency
7. Save manpower

Affect of Exercise Phases on Staff Structure

The staff organization of control headquarters may vary depending on the particular phase of the exercise. Certain units such as 3d Armored, 4th Armored, 25th and 4th Infantry Divisions use so called phased staffs.⁴⁵

The different staffs were used for initial planning, preparation and finally conduct of the CPX. The planning staff for the 4th Armored Division control on a recent exercise consisted of the chief controller, his deputy and the principal staff officers.⁴⁶ A somewhat larger staff is needed for detailed planning and preparation. Just before the start of the exercise, personnel such as drivers, guards and other types of personnel arrive that are not needed during the planning phase and do not require control training.⁴⁷ A good example of the transition from phase to phase is the 7th Corps G2 organization. The Preliminary Planning Staff contained the following:

G2
 Assistant G2
 Combat Surveillance
 Order of Battle

During the Final Planning Phase the following was added:

⁴⁵HQ 1st Battalion, 51st Infantry, Fourth Armored Division Control After Action Report - Exercise LION VERT, (HQ 4th Arm'd Div, Goepingen, Germany, 19 September 1963), p. 1.

⁴⁶Ibid., p. 3.

⁴⁷Ibid., p. 2.

ASA

IPX/TI

CI

Several days prior to the start of the exercise the complete so-called "operational" staff was assembled.⁴⁸ The same principle was followed by the control group as a whole. The staff structure does not change in form so much as it grows, adding on sub units. This organizational escalation saves on manpower and promotes efficiency.

The three types of staff structure have been applied to the control organization, the various organizational parts of the control organ have been analyzed and organizational principles have been developed. Some conclusions have already been stated regarding the appropriate organization for the functional groupments within the control staff. Based on the analysis the following principles were developed specifically concerning control staff organization.

1. Represent functions carried out by division staff and functions needed to properly control the CPX.
2. Similar to division staff structure
3. Capability of echelonment
4. Self sufficient
5. Permanent nucleus
6. Separate (Not satellited on a staff already in existence organized for a different purpose).
7. Simplicity

Based on the analysis and applying both the general organizational

⁴⁸Headquarters 7th Corps, op. cit., Annex F, p. 1, 2.

principles and those listed above it is concluded that a general staff types structure is the optimum type of control staff organization for use at division level. A proposed type division control organization is depicted at figure 13.

Section II

Personnel

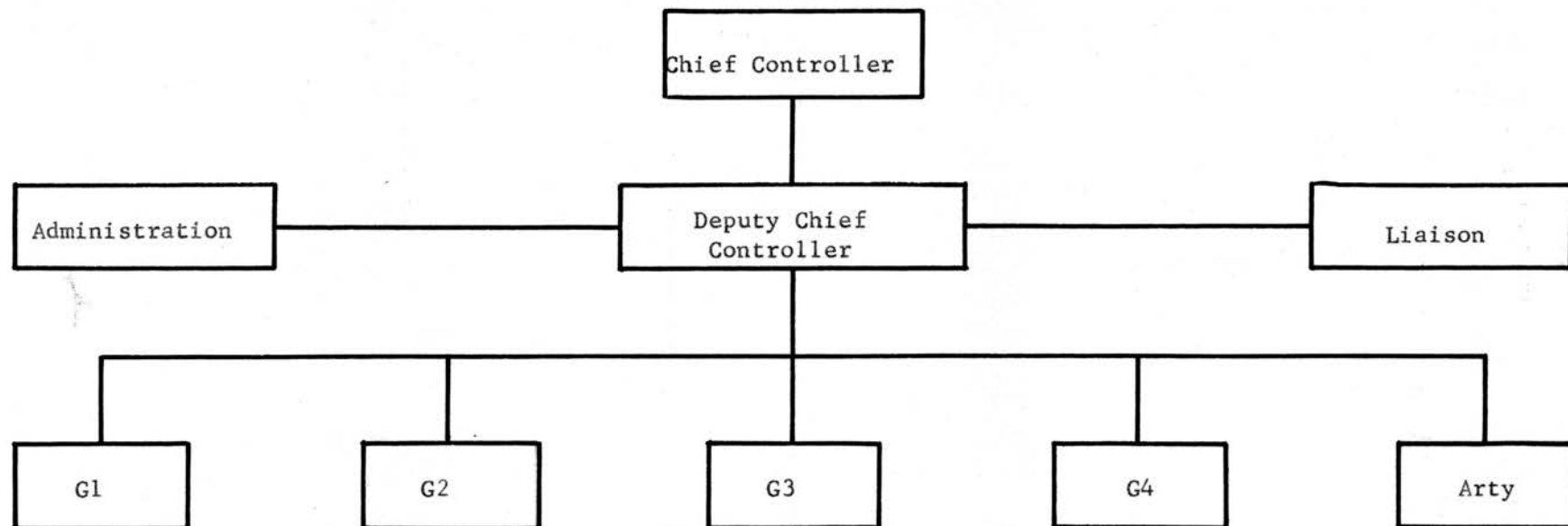
The subject of personnel will be studied from the aspects of requirements and selection criteria.

Requirements

Requirements in the sense used here means quantity needed. Three criteria enter into this determination. They are organization, load of each function and method of operations during the CPX. The various functions of control have to be managed by designated personnel. In areas of great activity several persons are needed to handle a specific function. Personnel requirements will also vary the type method utilized to carry out a task. Personnel requirements for the 25th Infantry Division control organization are depicted at figure 14. This organization requires 45 personnel. In contrast see the austere organizations of the 39th Infantry Division and 4th Armored Division at figures 15 and 16 respectively. It is not likely that the 39th Infantry or 4th Armored Division control staffs were able to regulate their exercises in an adequate manner.⁴⁹ The third personnel criterion mentioned was method of operation

⁴⁹HQ 7th Corps, Control Directive, Exercise PEACE MAKER/AUTUMN SHIELD (HQ 7th Corps, Moehringen, Germany, 6 October 1961), Tab B to Appendix 1 to Annex B.

A DIVISION CONTROL STAFF ORGANIZATION



63

See figures 7, 8 and 10 for organization of specific staff sections.

Figure 13

TAB A: (Personnel Requirements) Controller Report on Command Post Exercise (CPX) 21-22 Jan 60, Cont'd.

Sl/Lt	Capt/Lt	D-10
Int Opns	E-7	D-10
Inf Intel	E-7	D-10
Clerk Typist (2)	E-1/-3	D-10

4. Support:

a. Site:

Hqs Comdt	Capt/Lt	D-12
1st Sgt	E-7	D-12
Sup NCO	E-7/-6	D-12
Duty NCO	E-6/-5	D-2
Duty Soldiers (15)	E-3/-2	D-2

b. Communications

Sig	Capt/Lt	D-10
-----	---------	------

Sig Co Plt (Reinf) as prescribed by Sig Off

* Required when specific play desired in this field.

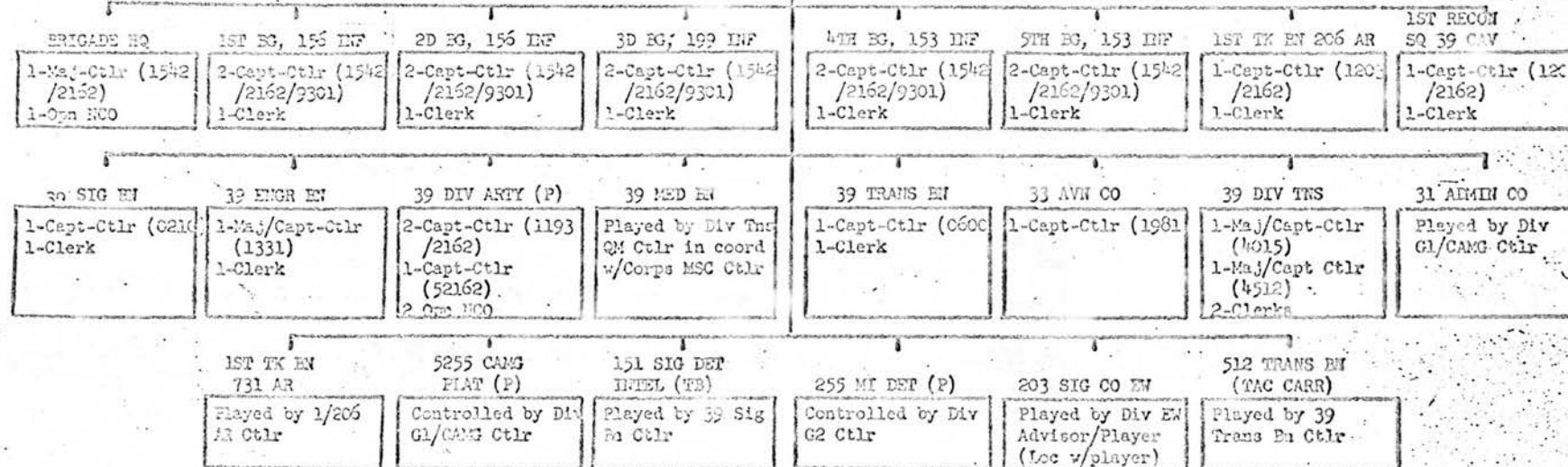
** Only one (1) is required if Battle Group Headquarters are player.

Figure 14

CONTROL ORGANIZATION
39 INF DIV (P)

1-Col-Ch-Ctlr (1542)
1-Maj-G1/CAMG Ctlr (8104)
*1-Maj-G2 Ctlr (9301)
*1-LC/Maj-G3 Ctlr (2162)
1-Maj/Capt-G2/G3 Air Ctlr
(2162/9304)
1-LC/Maj-G4 Ctlr (4010)
*1-Maj/Capt-Onl Ctlr (7311)
3-Ogn NCO

* One (1) to be Special Weapons qualified



(P) Denotes Player Unit

Chart Nr 6, Section II, Chapter One, Part Four, Control Plan, Exercise CLOVER LEAF III

Figure 15

Tab B to Appendix 1 to Annex B to Control Directive, FTX PEACE MAKER/AUTUMN SHIELD (U)

ARMORED DIVISION UMPIRE ORGANIZATION

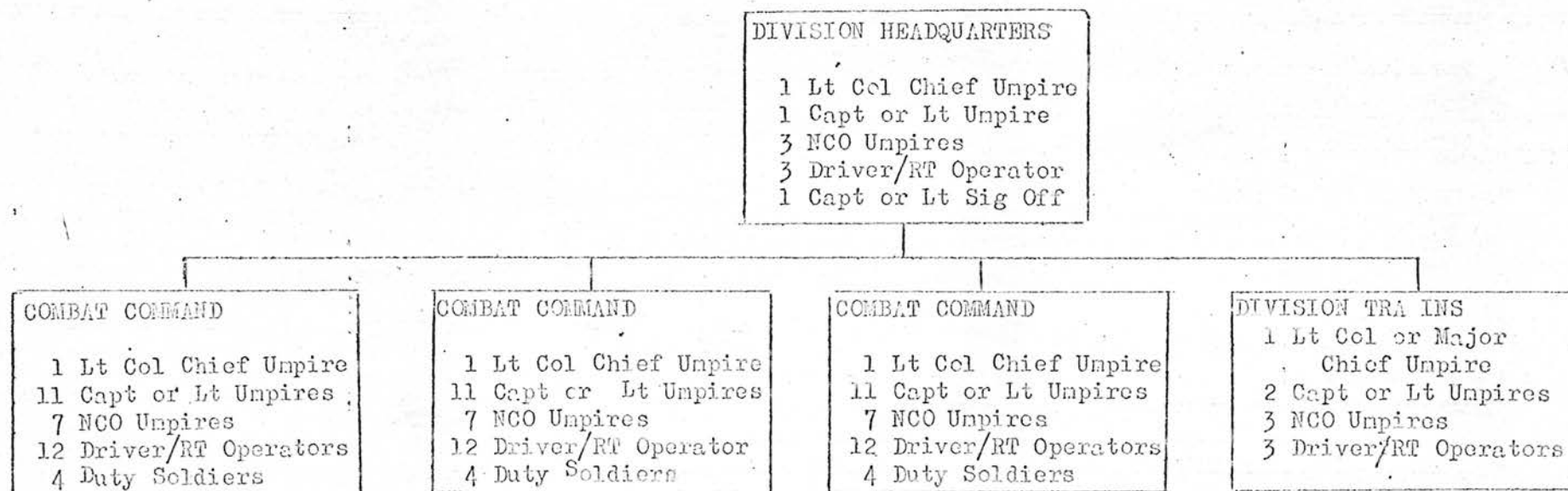


Figure 16

of the staff. The main consideration here concerns the mode of operation in the field. That is, whether the staff will operate on a 24 hour per day basis and if so, the shift arrangement. In most CPX's the activity goes on around the clock and there are usually two shifts.⁵⁰ Two shifts, indicate a requirement for two full staffs for the operational part of the control group. (25% of persons answering the CPX questionnaire stated that insufficient personnel were assigned to control groups).⁵¹

Numbers of personnel used on various control groups varied from 75 (40 officers and 35 EM) in the 3d Armored Division to 10 (7 officers and 3 EM) in the 39th Infantry Division (see figure 15).

Most division control groups averaged about 45. In almost every case they had requested additional control personnel. About 60 officers and enlisted men would be required to man the proposed division control organization.

Selection Criteria

Selection criteria for control personnel is of vast importance. It is one of the most frequently cited control problem areas indicated in after action reports and by unit and individual comments. Almost 50% of former controllers questioned indicated that the quality of control personnel was not adequate and that lack of experience was the main cause.

Another facet of quality is the qualification of a controller for the particular duty to which he has been assigned. Qualification in this

⁵⁰Rutherford, op. cit., p. 18.

⁵¹Ibid., p. 3.

regard is achieved by designating a rank and MOS for a specific control position. An example of rank and MOS requirements for control posts is shown at figure 17. It is essential that a controller have experience in the position to which he is assigned, preferably at the level of the control group. The command group and principal staff members of the control staff should come from the division staff or have had experience at division level. Their rank should be commensurate with their position. The rank of the primary general staff officers at division is lieutenant colonel. Their opposite numbers on control should at least be majors. This parity in rank is conducive to a better working relationship between control and the division staff.

In order to obtain qualified controllers in the quantity required, command emphasis must be placed on control duty to the extent that control organizations are not dumping grounds for ne'er-do-wells. Pertinent criteria must be established in writing for the division G1 to use as a basis for quotas and finally the chief controller must set high standards of acceptance. The section chiefs can be of great help in determining suitability of personnel.

A prime element of the control organization is the allocation of requisite, qualified personnel.

Job Title	MOS	Commissioned Rank	EM Grade	Required
G1 Controller	2260	Maj.		1
Asst G1 Controller	2260	Capt.		1
Cass Ass Officer	52260/ 52662	Capt.		2
Civ Aff Officer	8104		Sgt.	1
Civ Aff NCO	768		Sgt.	1
Provost Marshal	9110	Lt/Capt		1
PM NCO	951		Sgt.	1
G1 NCOIC	716		Sgt.	2
G2 Controller	9301	Lt Col/Maj		1
Asst G2	9301	Maj/Capt		1
Combat Surveillance Off	9301	Capt		2
OB Off	9318	Lt.		2
ASA Off	9666	Lt/WO		2
IPW/TI Off	9316	Lt.		1
IPW/TI SP	966		Sgt.	1
LRRP Off	79301	Lt/Capt		1
LRRP NCO	113		SGT.	1
CI Specialists	9666/ 9717/	Lt/EM/WO/Capt		2
Operations Sgt	962		Sgt.	1
OB Specialists	964		Sgt.	2
IPW Specialists	966		Sgt.	1
Code Clerk	311		EM	2
G3 Controller	2162	Maj.		1
Asst G3	2162	Capt/Lt		2
G3 Specialists	962		Sgt.	4
G3 Air Controller	2163	Maj/Capt		1
Asst G3 Air	2164	Lt		1
Army Aviator Contr.	2164	Capt.		1
Asst Aviator Controller	2164	Lt.		1
Arty Controller	1199	Maj.		1

Figure 17

CHAPTER IV

CONTROL METHODOLOGY

Once the designer has devised a problem situation, control is necessary to insure that the conditions which are developed truly reflect the interaction between the situation and the organization or operational principles being tested. The requirement is for realism of results.¹ It is through the medium of control that the exercise plan is executed. The methods, procedures and techniques used by controllers to develop problem play have the greatest of effects on the success of an exercise. Improper control of an exercise will result in a poorly coordinated and unrealistic exercise.

There are several systems of control. In every exercise various methods are blended into a single system for conduct of control. The proper understanding and application of control measures by all control personnel is essential to the proper employment of control. This chapter deals with the major aspects of control mechanisms and also realism and controller-player relations which are closely connected with the task of control.

Section I

Control Systems

The relationship between the control system, control methods and pro-

¹CORG, CORG Memo CM-47, pI-1.

cedures was defined in Section IV of Chapter II. The nature of the control system employed is dependent on the objectives of the CPX, and the experience of the personnel involved, both player and controller.

Each exercise normally will have a two part control system - one that is built in and operates by its very presence and the other that must be manipulated. The built in portion of the system consists of such measures as control phase lines, boundaries, time sequences, limitations written into the scenario, and force allocations. These control measures operate constantly, without need of controller action, to regulate the play of the exercise. The operating part of the system consists of such control devices as war gaming methods, message injections, assessments and operation of aggressor units. These last named control devices are variable and their application is not automatic but dependent upon controllers throughout the exercise.

Before control methods and procedures can be devised, the basic system of control must be established. Depending on the amount of rigidity desired in the control of the problem the following control systems are used.

1. Scenario
2. Scenario with semi-free situation play
3. Phase line control
4. Free play

A scenario type control system is one in which actions of player and aggressor are specified in the scenario. Some latitude of action may be authorized. Operation FRATERNIDAD is a good example of an exercise

in which such a control system was used.² Operation FRATERNIDAD was a combined forces exercise involving nations of the organization of American States (OAS). The problem concerned actions against a guerrilla force. An aggressor and a player scenario were used. An extract from the player scenario is shown below:

Fifteenth Situation

Intelligence reports gathered from captured prisoners indicates that guerrilla forces are being supported by local civilians in outlying villages and towns. Certain towns and villages are being used as a base of operations for guerrilla forces.

Fifteenth Requirement

Actions and plans taken to relocate civilian populace who are assisting guerrilla forces, actions of civil affairs personnel in handling these civilians. Preparation of plans for and conduct of reconnaissance patrols in an effort to locate aggressor guerrilla base of operations.

The Aggressor scenario for the same situation was as follows:

Ninth Situation

The tactical units will conduct reconnaissance patrols in an effort to locate the aggressor base of operations.

Ninth Requirement

The aggressor Forces occupying EL HATILLO (817625) resist all efforts of CTF (Combined Task Force) patrols to locate Aggressor HQ. Aggressor Forces will increase their patrols in the vicinity of EL HATILLO. Aggressor partols will attempt to ambush CTF patrols. If ambushes are unsuccessful

²HQ US Army Caribbean, Final Report and Exercise Directive, Operation FRATERNIDAD (HQ US Army Caribbean, Office of the CG, Fort Amador, Canal Zone, 5 October 1962), p. 3, Appendix 1 to Annex C.

ful, aggressor patrols will conduct delaying action and withdraw to EL HATILLO.²

The need for this rigid control is necessary where less sophisticated military forces are participating. The scenario type control is normally used in schools and elsewhere as a teaching vehicle for U.S. forces.

The second system of control is a scenario with semi-free play aspects. There is no situation - requirement sequence that the player must act upon. There is a situation and a requirement, but it may not be stated as such. The situation is given to the player via problem play. Exercise PEACE MAKER/AUTUMN SHIELD presents an example of this system of control.³ A typical entry in the control scenario was:

270400 - Aggressor begins driving a penetration into the 24th Infantry Division near the north flank. This action continues until the division headquarters reacts, but is slowed or stopped before the division reserve is committed.⁴

The scenario placed a limit on the aggressor action indicating that there would not be a rupture of the division defense. The objective in this portion of problem play was to exercise division counterattack planning and execution. The exercise was designed to teach procedures and a rigid form of control was required for that purpose. As an adjunct to the written scenario and to insure close control in Exercise PEACE MAKER/AUTUMN SHIELD, the Control Group used a scenario overlay showing by time increment (every hour for some portions of the exercise) exactly where aggressor forces were to be and in what strength. The system of control has the disadvantage of stifling the motion of a problem, and tending to dis-

³HQ 7th Corps, Control Directive, Exercise PEACE MAKER/AUTUMN SHIELD, p. 2.

⁴Ibid.

count player actions.

The phase line method of control makes use of lines usually developed by time phasing (H/6, H/12, etc.) that limit movement of forces in contact within two phase lines during a given period of time.⁵ War gaming methods may or may not be employed. The rigidity of play depends upon the number of phase lines employed. This type of control can be quite spastic and unrealistic with aggressor forces charging from one phase line to another and then remaining inactive for hours on end (usually at night).

The free play system of control makes extensive use of war gaming techniques. It is used where it is desired to make a valid test of plans or if the players are highly experienced. Free play also requires a high order of competence and experience on the part of controllers. The 3d Infantry Division has recently instituted this control system as their standard system of control.⁶ The divisions of Seventh Army used the free play system on Exercise GRAND SLAM II to enable a valid test of plans to be made.

All control systems have their uses and there is not necessarily one best system for general use. For most U.S. unilateral exercises either the phase line or free play system of control offers more realistic, valid and challenging play. The free play system is the preferred method of control for an experienced unit. It will provide more training benefits to both controller and player than any of the other systems of control.

⁵Seventh Army, Standard Control Reference Data, paragraph 4th, Annex B.

⁶Fisher, op. cit., p. 1.

Control Methods and Procedures

Control methods developed are based on the control system to be used. The method of casualty assessment will serve as a means of showing how methods of control are different for each control system.

<u>Control System</u>	<u>Control Method</u>
Scenario	Fixed assessment per day. Stated in the scenario by unit.
Scenario with semi-free situation play.	Fixed overall assessment per day. Controllers assess unit casualties by engagement. Must stay within overall limits.
Phase line.	Overall assessment stated in scenario per day by percentage. Units assessed casualties by controllers according to exercise situation within limits stated in scenario. May use war gaming techniques to decide casualties for engagements.
Free play.	War gaming method.

Control procedures involve the means and techniques of implementing a particular method. A procedure is usually repetitive and mechanical. Because a given procedure must be used by controllers of varying experience at all levels, it should be standardized and simple.

The control methods and procedures for the rigid scenario type CPX are fixed by the scenario. That is, actions such as that of the aggressor are stated in the scenario. Where the phase line or free play control systems are used, the methods and procedures to be used become important.

Section II

Aggressor Force Play

Particularly important to the exercise is the play of aggressor

forces. The control scenario for a phase line or free play system of control gives only the general plan of activity. From this outline the aggressor operations plan is developed. Based on the operations plan specific control methods are instituted.

Allocation of Forces

It is first decided at which level various activities and forces are to be directly controlled, that is, at which level given aggressor elements are to be played. The overall aggressor forces will take three forms; conventional forces, guerrillas and agents. The general rule is followed that the control group plays those activities that occur within the area of responsibility of the friendly units for which they are controllers. For example, brigade controllers control all play occurring within the area from the brigade rear boundary forward to the brigade limit of influence, about ten kilometers in front of the line of contact. This rule also applies to the battalion if it is included in the CPX. There are exceptions to the rule. There is exercise play that is better controlled at certain levels. CI play is an example of this. A brigade area is too small to have separate CI play since agent nets occupy considerable territory. Nuclear play is also better handled at division because of its complexity and extent of effects.⁷ Guerrilla and refugee play is difficult to coordinate and should also be controlled centrally at division level. Decisions are made by the division control group as to which level

⁷HQ 3d Infantry Division, Control Directive, CPX LITTLE ROCK, p. 9. Annex C.

of control will handle each type of activity.⁸ Allocations of forces are made which include aggressor front line units with their attachments and direct support elements, nuclear weapons allocation, and number of aggressor air sorties. The area system of control tends to force aggressor and friendly forces boundaries to coincide in order to simplify coordination between control groups. Coinciding boundaries should be avoided as they detract from realism of play.⁹ The other method of aggressor force control is to allocate given forces and have the same control group govern their operation no matter where the aggressor units operate. The CPX control survey showed that units used both methods equally.¹⁰ The disadvantage of the second method of control is that if an aggressor unit passes into another friendly unit's territory the controller of that aggressor force who is co-located with his initial player unit now has to send messages to another player unit whom he probably will have difficulty in maintaining contact. The play of units in contact is conducted by the controllers of the lowest unit playing the CPX - usually the battalion.¹¹ The 3d Infantry Division applied the following rules of force allocation:

"Division controls flank activity of division size (aggressor units) or greater. Brigades will control flank regiments. Brigade controllers will normally control all aggressor divisional and attached artillery and all aggressor reserves not committed or released to battalion controllers.

Battalion controllers will normally control an aggressor regiment when their battalion is in contact."¹²

⁸Seventh Army, Standard Control Reference Data, para 2c, Annex B.

⁹Mayor, op. cit., p. 14.

¹⁰Rutherford, op. cit., p. 12.

¹¹Ibid, p. 13.

¹²HQ 3d Infantry Division, op. cit., p. 1. Annex B.

Transfer of Control

There are four conditions in which control of allocated forces or resources will change from one control group to another. These are: when an aggressor force crosses a player boundary; aggressor reserves are committed or units are withdrawn from contact; commitment of an airborne force; and, ordered by division control due to a change in plan. Seventh Army directs that when control of aggressor units change, the following information must be given to the gaining control group.

- a. Time of release
- b. Location
- c. Combat effectiveness¹³

The configuration of the force should also be given as well as reporting the change to higher headquarters.¹⁴ Units dealt with an airborne maneuver in different manners. In the 1st Infantry Division, the G2 controller played the aggressor airborne forces.¹⁵ In the 3d Infantry Division, information was sent to the division air defense element up until the airborne forces neared the drop zones. Control was then passed to controllers of the unit designated by the division G3 to counter the action.¹⁶ In the 4th Armored Division the airborne force was handled by the controllers of the unit in whose area the airborne force landed.¹⁷ The most

¹³HQ Seventh Army, Control Directive, CPX APRIL SHOWER (HQ Seventh Army Stuttgart/Vaihingen, Germany, 10 March 1961), p. 2, Annex C.

¹⁴Fisher, op. cit., p. 13.

¹⁵Hume, op. cit., p. 17.

¹⁶Fisher, op. cit., p. 12.

¹⁷Lodewick, op. cit., p. 12.

logical method of handling airborne forces is a combination of the 1st and 3d Infantry Division methods. The division G2 should control the force until it lands. Control then should pass to the controllers of the unit that is committed against the airborne force.

Whenever transfer of control is to occur, coordination must precede transfer so that the receiving control group can accomplish advanced planning. At the time of transfer the information relating to time, location, configuration and status should be passed and higher headquarters informed.

Combat Service Support

Another area of exercise play where many control methods are used is combat service support play. Types of control methods used and their application are important because of the numerous activities that must be controlled.

Control methods concerning logistical play are quite similar in most respects of the methods utilized to control tactical play. There is less of an active enemy to deal with and this changes the complexion of control somewhat. Guerrillas, enemy agents and airborne actions constitute the rear area enemy. When action occurs involving aggressor forces under the logistic controller's charge he must insure through close coordination that his activities are in consonance with those of the tactical controller. Whether or not the combat service support controller manages the aggressor forces he must enforce the consequences of damages on the player.¹⁸ This assessment task is emphasized in regard to nuclear

¹⁸HQ 5th Corps, Final After Action Report, CPX APRIL SHOWER (HQ V Corps, Frankfurt, Germany, 22 July 1961), p. 6.

strikes.¹⁹ Probably one of the most difficult chores for the combat service support controller is to insure that the combat service support situation affects the tactical play in a realistic manner.

The facet of combat service support control that is different from tactical problem play concerns the normal support procedures that occur. Most such activities involving requisitioning and movement of supplies cannot be displayed on a map. It is difficult to follow combat service support play and to monitor player actions. A method of insuring adequate combat service support play is to direct controllers to inject a certain minimum of play. Seventh Army prescribed a minimum list of incidents that would occur - e.g.:

"At least one requisition or appropriate document for Class II, IV or V will be submitted by each participating unit (battalion or larger) so as to reach the next higher echelon of supply prior to the start of an exercise...²⁰

Seventh Army also indicated that play should originate at company and battalion level and that -

"When errors in time space factors, availability of items, or support capabilities become evident, logistical controllers at all levels will introduce situations, in coordination with G2 and G3 controllers, which will necessitate corrective action to be taken by player personnel."²¹

Controllers must be constantly monitoring their player counterpart in order to see that proper reactions to injected situations are occurring. Too often activity lags in the combat service support portion of the exercise because the player is not required to play all aspects of combat

¹⁹HQ 7th Corps, Final Report, Exercise CHECK MATE, p. 6.

²⁰Seventh Army, Standard Control Reference Data, para 2, Annex F.

²¹Ibid., Annex F, para. IF.

service support activity.²² The CPX control questionnaire revealed that about 60% to 80% of the time combat service support play was not realistic, did not parallel or reflect the tactical situation, have an effect on tactical play.²³ Reasons for this as indicated below:

1. Lack of emphasis by commanders.
2. Lack of knowledge by control personnel concerned.
3. Incorrect attitude of personnel concerned.
4. Improperly planned and implemented control plan for combat service support.
5. Faulty coordination between logistics and operations controllers.
6. Realistic logistic play difficult to achieve.
7. More difficult for supervisor to find defects in combat service support play. It may seem all right in a cursory inspection, but actually may not be due to the nature of the play which deals in large measure with statistics.

Typical comments from units concerning problem areas in control of logistic play are listed below:

1. Logistic and administrative problems existing in subordinate units were injected at corps level rather than at the level of the unit concerned. Contact with the unit affected revealed that units had no knowledge of the problem.
2. Damage to logistic installations and routes of communication resulting from atomic and conventional fires, both friendly and enemy was not realistic.²⁴ Recommendations: Speed up and improve quality of nuclear strike evaluation. Increased emphasis on logistic play.²⁵

²²HQ 18th Airborne Corps, Comments on CPX Control, 18th Airborne Corps (HQ 18th Airborne Corps, Fort Bragg, N.C., 15 January 1964), p. 14.

²³Rutherford, op. cit., p. 9.

²⁴HQ V Corps, Final After Action Report, Cpx APRIL SHOWER (HQ 5th Corps, Frankfurt, Germany, 22 July 1961), p. 6.

²⁵Ibid., p. 9.

3. In a critique of Exercise SWARMER Major General Clarkson commented that the play of bulk supplies (simulated) was unrealistic.²⁶

4. 18th Airborne Corps stated that there were insufficient requirements for logistical players and lack of realism. Recommendations: Give added requirements to logistical players and conduct intense, detailed preparation and war gaming.²⁷

5. Both the 82d Airborne and 25th Infantry Divisions indicated that the duration of the CPX was too short to properly develop logistical play.²⁸ The 82d Airborne Division recommended a time compression for short duration CPX's.²⁹

All of the recommendations are well taken. Instead of a time compression which is difficult to play tactically, perhaps the logistic play should be initiated prior to the initiation of tactical play so that the logistical situation can be adequately developed by the time the exercise is initiated.³⁰ Based on the foregoing, some principles of combat service support control methodology can be stated as follows:

1. Emphasize combat service support play.
2. Provide technically knowledgeable control personnel.
3. Plan combat service support play in the necessary detail time parameters to insure adequate play in all areas throughout the exercise.
4. Insure continuous coordination between control of logistic and tactical play.
5. Closely and continuously monitor player activities.

²⁶HQ Maneuver Commander, Critique, Exercise SWARMER, (HQ Maneuver Commander, Fort Bragg, N.C., 5 May 1950), p. 18.

²⁷HQ 18th Airborne Corps, op. cit., p. 14.

²⁸HQ 25th Infantry Division, After Action Report, Exercise HANDA, p. 1. Annex D.

²⁹HQ 82d A/B Division, After Action Report, 82d A/B Division CPX TUNE-UP (HQ, 82d A/B Division, Fort Bragg, N.C., 12 February 1964), p. 8.

³⁰D. Neggard, Comments on CPX Control, 82d Abn Div. (HQ 82d Abn Div, Fort Bragg, N.C., 27 February 1964), p. 14.

6. Use simplified methods of control.

Refugee Play

Refugee play occurs in the rear areas, and is controlled by the logistic portion of the control staff. Refugee play has a direct effect on tactical operations due to its effect on movement of tactical units. Despite this significant effect on tactical movement refugee play is given little or no cognizance in most CPX's as the comments in this unit after action report indicate.

"Refugee situations reported only in general terms, e.g., '30,000 refugees are clogging secondary roads in area of Wurzburg.' Did not produce delays in movement they should have. Reports must tell number of refugees on specific roads and where - their means of transport, rate and direction of movement, and resources in food and water and fuel.

Standard time distance factors for refugee control must be devised for reporting and solving problems, e.g., refugees on foot move at 3 kilometers per hour and a column of 3,000 is one kilometer in length; refugee vehicles move at 15 kilometers per hour - a column of 400 vehicles is one kilometer long and with four persons per vehicle will be 1,600 persons per kilometer."³¹

The above comment sums up the refugee play problem very well. Its essence is that not only must the controller tell the player about refugees in various locations, but he must slow or stop movement along the hindered routes. How much hinderance should a given number of refugees cause is an arguable point. Density is a good measure, with the hindrance time increasing in some type of proportion to the density. However the time loss is arrived at, it must be transmitted immediately to the player so that he may react to the situation in a timely manner.

Section III

War Gaming Methods and Techniques

³¹HQ 7th Corps, Final Report, CPX GRAND SLAM I, p. 1, inclosure 2.

War gaming methods must be used in all CPX's which have some element of free play in them. War gaming allows the computation of the results of interactions between two simulated forces in a realistic manner. A pertinent discussion of war gaming from a Combat Operations Research Group (CORG) study of control systems gives the purpose and need for war gaming in an exercise.

"The primary requirement of a... control system... is that it provide realism in the direct effects of fire power. The control system must also provide realism in secondary effects of fire power. In this regard logistical play requires special attention. It is necessary that logistical capability is not exceeded, that delays in the restoration of fire power, movement and communications capabilities are realistically restricted pending assumed restoration.

Major effects categories are:

Fire power	Logistics
Movement	Control (command)
Intelligence	Vulnerability ³²

"Fire power factors are kill rate, capability for massing fires and total area covered by fire."³³

"Potentially important departures from realism in the six major areas of interest are as follows:³⁴

"Fire power - effects must be assessed accurately and in proper time relationship to the action. Fire power employment, to be realistic, must reflect the capabilities of the intelligence, control (command) and logistical systems."

"Movement - effect of fire power in creating or reducing obstacles to movement, destroying the means of transport, or damaging the control (command) system through the destruction of personnel or communications.

³²CORG, CORG Memo CM-47 (TASK FE-2) Umpire System Study for Combat Development Troop Tests (HQ CONARC, Fort Monroe, Va., 7 September 1956), I-1, II-A-2.

³³CORG, CORG Memo CM-47, II-A-7.

³⁴CORG -R-60 Umpire Control of Combat Developments Experiments (HQ CONARC, Ft Monroe, Va., 31 July 1957), p. 9.

"Intelligence - fire power effects in destroying information collecting personnel and means, other activities the simulation of (such as digging in) denies opportunities for observation."

"Logistics - effects of fire power and demand for combat service support. Logistic system must be simulated accurately to permit correct interaction between logistic capabilities and situation."

"Control (command) - Unrealistic assessments of damage to communications and unrealistic play of combat service support effort to restore communications. Control (command) is also unrealistic if key personnel are permitted to form their own replacement, or if important documents are made available following simulated destruction."

"Vulnerability - vulnerability of target unit must be known accurately. Vulnerable condition must reflect effort available to reduce vulnerability. Target unit (player) must have realistic information of the fact that it is under fire to permit it to take protective action."³⁵

The above analysis discusses the major control categories in relation to the effects of fire power upon them. Each category interacts and has an effect on the other. The effects of these six categories must be war gamed in the CPX where a free play or semi-free play control system is used. War gaming methods are not used in the rigidly controlled CPX.

Effects are calculated utilizing war gaming techniques. There are three means of war gaming: manual, computer-assisted and computerized. In the latter category all play but decision making is obtained from computers.³⁶ At this point in time only the manual technique of war gaming has been used at division level in CPX's.

The manual system makes use of various tables, charts and graphs to arrive at conclusions concerning interactions. Of the 70% of the units

³⁵CORG, CORG -R-60, p. 9, 10.

³⁶Colonel Alfred W. DeQuoy, Operational War Gaming, (Armor Magazine, September-October, 1963), p. 35.

who used war gaming techniques in their CPX's many different techniques were used to develop an answer in a given area such as the effects of nuclear weapons.³⁷ The following war gaming tables were among those utilized by controllers. The percentage of units which employed war gaming techniques using a listed type table is also indicated.

1. Effect of nuclear weapons (See table 1)	100%
2. Probabilities (See tables 2 and 3)	60%
3. Effect of air strikes (See table 4)	70%
4. Casualties, average per day (See table 5)	95%
5. Gas casualties (See table 6)	70%
6. Equipment losses (See FM 101-10)	95%
7. Combat effectiveness (See figure 18)	50%
8. Surface to air missile effectiveness	25%
9. Visibility and terrain effects on combat (See table 7)	30%
10. March rates (See FM 101-10 & FM 30-102)	90%
11. Relative unit capabilities (See figure 19)	40%
12. Effect of refugees on movement and maneuver	45%

The CPX control questionnaire revealed that war gaming techniques were used to a minimum by 50% of the units.

The list of tables give a general idea in which areas war gaming is used to make determinations. Specifically these areas include -

- | | |
|-----------------|----------------|
| 1. Force combat | 5. CBR warfare |
| 2. Artillery | 6. Movement |

³⁷Rutherford, op. cit., p. 14.

TABLE 1

Appendix 2 (Nuclear Effects Assessment Data) to Annex F (NBC Operations) to 3d Inf Div Control Directive, Exercise "LITTLE ROCK" (U)

NUCLEAR DAMAGE AND CASUALTY ASSESSMENT

AIR BURST CASUALTIES (RD IN METERS)*

(KT)	Troops YIELD IN	Troops in Open Foxholes	Troops in tanks	Troops in APC's	Troops in Buildings	Troops in Forest (UNPROTECTED)
1	800	550	620	790	550	750
2	900	650	750	850	600	850
5	1030	770	850	900	920	1000
30	1420	880	1000	1170	1600	1500

SURFACE BURST CASUALTIES (RD IN METERS)*

1	800	550	620	700	400	750
2	900	650	750	750	500	850
5	1000	750	730	860	690	1000
30	1350	1000	1000	1170	1250	1500

AIR BURST DAMAGE (RD IN METERS)*

YIELD (KT)	Wheeled Veh	Tanks, Arty Inf Wpns	Engr Hvy Equip	Supply Dumps	Bldg Rubble	Tree Blowdown
1	260	150	180	160	250	400
2	350	200	350	200	350	550
5	500	280	360	300	500	800
30	1000	580	750	620	900	1900

SURFACE BURST DAMAGE (RD IN METERS)*

1	250	150	150	150	250	350
2	350	200	350	200	350	450
5	450	300	380	300	450	700
30	850	550	580	550	850	1200

* RD (Radius of damage) is the distance from GZ at which there is a 50% probability of producing casualties, or damage which results in obstacles or severe damage to equipment and supplies. Severe damage prevents use of the item permanently; repair is generally more costly than replacement or impossible. For this exercise 85% of personnel within the various casualty radii will be considered casualties, and 85% of materiel within respective damage radii will be considered severely damaged. Radii for tree blowdown and building rubble will extend distances given above.

TABLE 2 - DUD PROBABILITY TABLE

Delivery vehicles	Dud occurs if one of these dice combinations (two-digit number) is rolled.
8-inch howitzer (medium-range cannon)	11
280-mm gun (long-range cannon)	22
Honest John (large free rocket)	33, 44
Lacrosse (light guided missile)	55, 66
Corporal (medium guided missile)	12, 34, 56

Step 3. Determine actual height of burst. Cast two dice and establish number by determining the sum. Correlate the resultant number in the vertical error (PE_v) table below for direct PE_v reading and high or low. Determine the actual height of burst error by multiplying number of PE_v (from vertical error table) by the size of 1 PE_v (meters) obtained from the appropriate tactical system error data in FM 101-31-3. Next determine actual height of burst by adding or subtracting the vertical error to/from the desired height of burst.

VERTICAL ERROR (PE_v) TABLE

Two-dice throw (sum)	Vertical error (PE)	High/low	
2	4	H	
3	3	I	
7	2	G	
Desired height of burst	5, 8	1	H
	6, 9	1	L
	4, 10	2	O
	11	3	W
	12	4	

HORIZONTAL ERROR (PE) TABLE

Two-dice throw (sum)	PE	PE _r Over/short	PE _d Left/right	
2	4	O	L	
3	3	V	E	
7	2	E	F	
DGZ	5, 8	1	R	T
	6, 9	1	S	R
	4, 10	2	H	I
	11	3	O	G
	12	4	R	H
		T	T	

Example. The sum of two-dice cast is 8. From the horizontal error table above, determine the weapon will be detonated 1 range probable error over (or beyond) the target (DGZ). Using the same Honest John "input" data discussed above, the size of 1 PE_r is determined to be 95 meters (FM 101-31-3, fig 5.8). Actual GZ is 95 meters beyond the target (DGZ) along the gun-target line.

TABLE 3

CEP TABLE

Two-dice throw (sum)	CEP
5, 6, 8, 9	1
4, 7, 10	2
3, 11	3
2, 12	4

Example. The sum of a two-dice cast is 7. By direct reading from CEP table, determine the weapon will be detonated 2 CEP from the target (DGZ). "Input" data indicate the delivery system to be employed is the Corporal (medium guided missile). The inherent horizontal delivery error (CEP) for this delivery means is 500 meters (FM 101-31-3, para 7.1c(2)). Because 2 CEP occurred, the weapon detonated 1,000 meters (500×2) from the target (DGZ).

Step 5. Determine actual GZ. This is done by determining the direction in which to offset the actual CEP computed in step 4, above. Roll

CEP DIRECTIONAL OFFSET TABLE

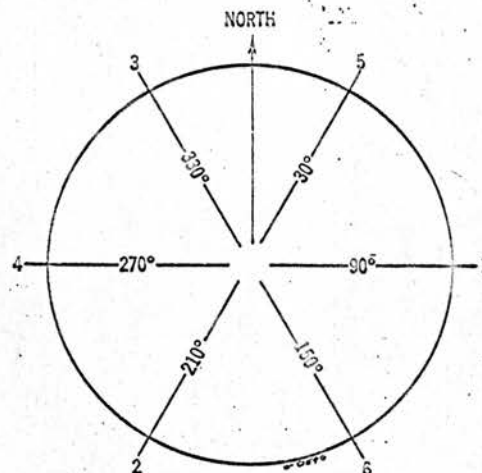


TABLE 4

CLOSE AIR SUPPORT DAMAGE
ASSESSMENT TABLE

Percentage of Casualty		Tactical Condition		Camouflaged or Concealed		No camouflage or concealment		Dig-in revetted or hull-down		In open, no cover		In convoy-100 yd distance or more		In convoy-less than 100 yd dist		Dismounted col less than 5 paces distance		Dismounted col more than 5 paces distance	
TARGET	CATEGORY																		
(1)	Infantry Company	50	20	30	40	30	20	60	40	Use percent ages in ltr		60	30	30	20				
(2)	Artillery Battery	30	15	70	45	30	15	70	50	30	15	70	50						
(3)	Tank Platoon or Mtd Inf Platoon	20	10	60	30	20	10	60	30	20	10	40	20						
(4)	Light AA Battery	10	0	40	20	10	0	40	20	20	10	60	30						
(5)	SSM Battery	10	0	30	10	10	0	40	10	20	10	50	40						
(6)	Mtr Veh Convoy (ea 10 veh)	10	10	60	30	N/A		60	30	20	0	80	40						
(7)	Tank or Motor Park	10	10	60	30	20	10	50	30										
(8)	Command Posts	10	0	80	40	10	0	80	40										
(9)	Ammor or POL Dump	10	10	80	50	20	10	80	50										
(10)	Crew Svd Inf wps or pillbox	20	10	60	40	10	10	60	40										
(11)	Army Aircraft (Parked)	20	10	80	50	20	10	80	50										
(12)	Pontoon Bridges			40	20	} per 100 ft.													
(13)	Highway Bridges			40	20														

INSTRUCTIONS:

1. Use percentage indicated in upper half of block for sustained attack. (Multiple passes by more than two aircraft).
2. Use percentage indicated in lower half of block:
 - a. For strikes using two or less aircraft, regardless of the number of passes.
 - b. If AA or SAM units are defending the area attacked, regardless of the weight of the attack.
3. Percentage figures apply only to the portion of the target attacked.

TABLE 5

Average percentage of casualties per day to a Div including attached non-divisional units for ground combat (non-nuclear).

	<u>Inf %</u>	<u>Armored %</u>
1. Covering & Security Action	1-2	1
2. Attack:		
a. Meeting Engagement	2-4	1
b. of position, 1st day	4-6	1-2
c. Succeeding Days	2-3	1-2
d. Airborne 1st Day		
(1) Parachute	12	
(2) Assault Air Craft	6	
(3) Followup Troops	3	
3. Defense:		
a. Meeting Engagement	2-3	1
b. Of position, 1st Day	2-3	1
c. Succeeding Days	1-2	1
d. Inactive in Contact	1-2	1
4. Pursuit	1-2	1
5. Retirement & Delaying Actions	1-2	1

Combat Effectiveness

Units will be declared combat ineffective when they reach strength percentages shown below.

	<u>Offensive Action</u>	<u>Defensive Action</u>
Division	70%	60%
Regiment/Brigade	60%	40%
Battalion	40%	30%

TABLE 6

INCAPACITATION CASUALTY ASSESSMENT FACTOR			
	Protective Clothing	Mask Only	No Mask
Troops Occupying or Passing Through Area	0.2	1	10 (See Note 1)
Troops Advancing Under Fire Within Area	0.5	2	10 (See Note 2)

NOTES: 1 - 15 percent of total casualties would be assessed as fatalities.
 2 - 25 percent of total casualties would be assessed as fatalities.

TABLE II. NERVE GAS (BG) CASUALTY ASSESSMENT.

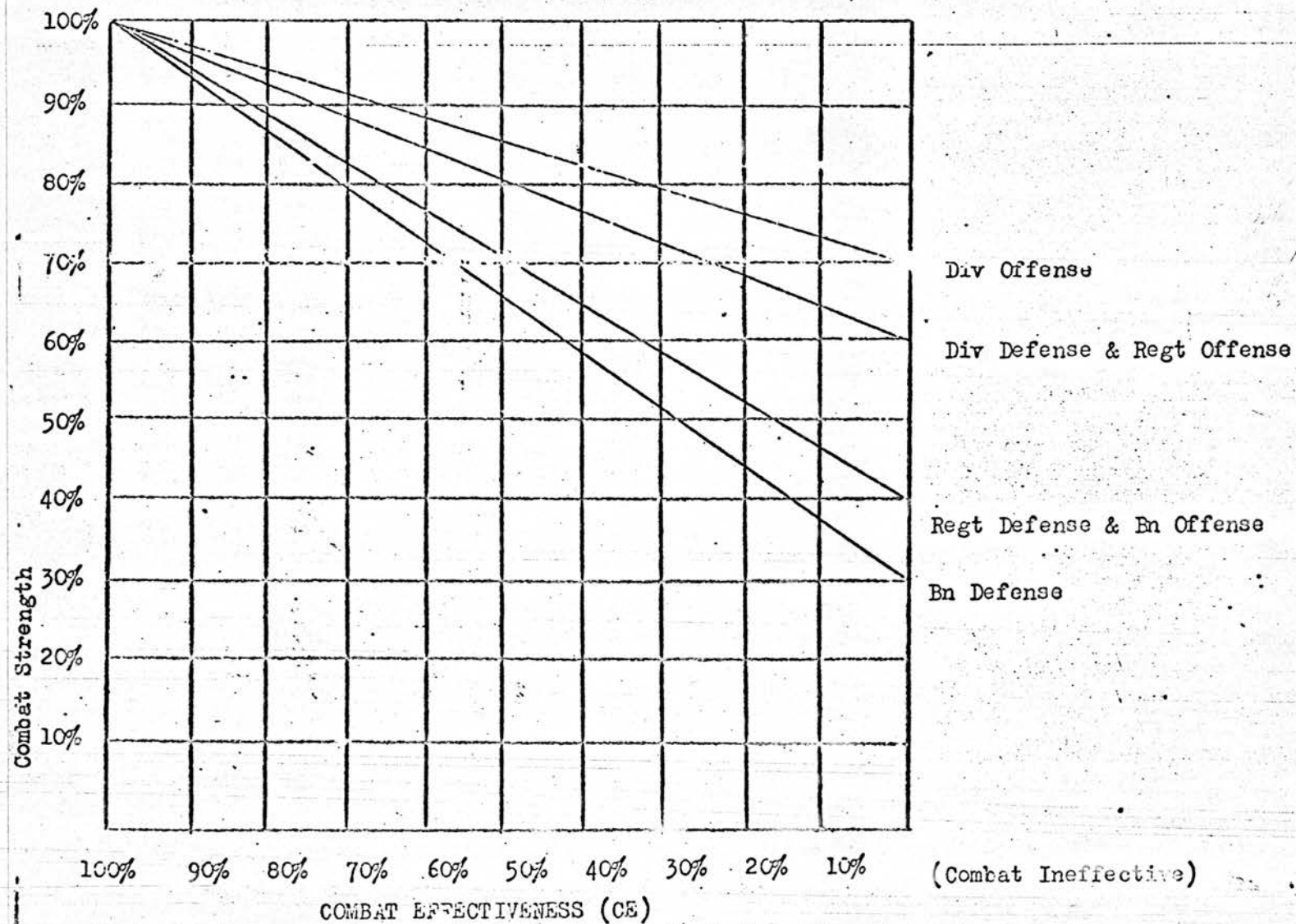
GAS DISCIPLINE	PERCENT OF UNIT CASUALTIES		
	PERSONNEL ACTIVITY	KILLED IN ACTION	INCAPACITATED
Masked before Attack	Resting	1	2
	Active or Assault	3	2
Masked during Attack (Within 9 seconds)	Resting	3-6	9-12
	Active	9-12	8-11
	Assault	17-20	1-4
No masks or extremely confused	50 percent casualties		

NOTES: 1 - To obtain total casualties, add killed in action to incapacitated.

2 - Casualties among personnel masked before the attack are the result of shell fragmentation, liquid hazard, and improper masking.

(2) Infantry Casualties Casualties assessed against a major infantry unit (battle group or larger) engaged in combat will not exceed 15 percent in any one day unless struck by an atomic weapon.

Combat Effectiveness Conversion Graph



Percent of personnel strength is converted to Combat effectiveness

Figure 18

TABLE 7

RATES OF MOVEMENT -- DISMOUNTED TROUPS (Table 5-1)
(Kilometers per hour)

Type of Terrain	No Resistance		6 to 1 or more		5 to 1		4 to 1		3 to 1		2 to 1 or Less	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
A	3.1	1.6	1.3	.7	1.1	.6	.9	.5	.7	.4	.5	.3
B	2	1	1.2	.6	1	.5	.8	.4	.6	.3	.4	.2
C	1.3	.7	1.1	.6	.9	.5	.7	.4	.5	.3	.3	.2
D	1	.5	.8	.4	.6	.3	.4	.2	.3	.2	.2	.1

When computing force ratios, if the force ratio is more than that indicated in a certain column, then the next higher ratio is used. As an example; force ratio of 3.7 to 1 is computed, the force ratio column of 4 to 1 is then used.

COMBAT POWER INDICES

AGGRESSOR

Motorized Rifle Div	1.2	Army Recon Regt	.25
Motorized Rifle Regt	.3	Div Recon Bn	.06
Motorized Rifle Bn	.09		
Tank Div	1.1		
Tank Regt	.3		
Tank Bn	.08		
A/B Div	.6		
A/B Regt	.2		
A/B Bn	.06		

CZECH

Motorized Rifle Div	1.0	(Invoices in this chart are Not related to actual capabilities)
Motorized Rifle Regt	.2	
Motorized Rifle Bn	.07	
Tank Div	.9	
Tank Regt	.2	
Tank Bn	.06	

EAST GERMAN

Motorized Rifle Div	1.0
Motorized Rifle Regt	.2
Motorized Rifle Bn	.07

US

Mech Inf Div	1.6	ACR	0.35
Mech Inf Bde	.4	AC Bn	0.09
Mech Inf Bn	.12		
Armored Div	1.7		
Armored Bde	.5		
Armored Bn	.15		

GERMAN

A/B Div	.7
A/B Bde	.2
A/B Bn	.06
PG Bde	.4
PG Motor Bn..	.09
PG APC Bn	.11
Panzer Bn	.14
BGS Bn	.06

Figure 19

3. Air

7. Losses

4. Nuclear strikes

8. Combat Service Support

Methods of determination for each of the above areas generally involve the following:

1. Force combat - Terrain, visibility, combat effectiveness, force ratio, unit advance capability.
2. Nuclear strikes - Probabilities, effects, weather.
3. Artillery and air - Effects, surface to air missile effects, probabilities.
4. Casualties - Ground combat, non battle, artillery, air, nuclear, CBR effects; break points, unit efficiencies.
5. CBR - Effects, weather, troop discipline, warning.
6. Movement - March rates, obstacle effects, refugee hinderance.
7. Equipment losses - Ground combat, artillery, air and nuclear effects, sabotage effects.
8. Combat service support - Factors contained in FM 101-10, refugee hinderance, damage assessments, guerrilla and sabotage effects.

The control personnel in units that did not use war gaming methods relied on estimates and judgement to arrive at their results.³⁸ This creates non-standard results and is highly undesirable. The ability of an inexperienced controller to estimate or judge correctly combat losses or the speed with which a unit can attack is questioned. War gaming methods are used most by the controller who is controlling units in contact. This is generally at the battalion level where control experience has been found to be the least.³⁹ To allow the inexperienced controller

³⁸Ibid, p. 15.

³⁹Rutherford, op. cit., p. 4.

to use his estimates and judgements to determine results of actions is not fair to the player or controller. The use of war gaming methods can compensate for inexperience as well as accomplish the following:

- a. Standardize assessments and results of force interaction.
- b. Provide realism to play.
- c. Make valid data available for analysis.
- d. Improve coordination procedures.
- e. Facilitate control.

The danger in the use of war gaming techniques is the tendency to fabricate complicated computations and methods. This occurs when in the pursuit of realism the author of a war gaming procedure attempts to account for as many variables as possible for a given situation.⁴⁰ As an example, in the assessment of casualties in ground combat one unit feels that:

"Assessment percentages for a particular type action based on given conditions are further influenced by the following factors:

1. Force composition.
2. Type of action.
3. Force concentration of elements engaged.
4. Surprise, maneuver and relative mobility of units engaged."⁴¹

Certainly all of the above factors affect in some manner the determination of casualties. The question is where to stop. If too many variables are introduced into problem the determination of results will be too time consuming even if the computation process is understood. During CPX DESERT STRIKE.

".. the assessment teams required a minimum of six hours of intense effort

⁴⁰ Ibid., p. 16.

⁴¹ HQ 7th Corps, Exercise MARNE ROCK, p. 2.

to assess all aspects of a major engagement.

Assessment procedures were complicated, required considerable study to understand and were time consuming to carry out even though they were simplified from the STAG version."⁴²

Such a situation is intolerable at division level. A balance must be obtained between the attempt to achieve a realistic result and ease and timeliness of derivation. It was found that there is a lack of published war gaming methods that are simple and easy to understand. Most war gaming procedures utilized too many variables. It is, ultimately, more realistic to ignore most variables affecting a determination and consider only the one or two absolutely essential ingredients to a valid solution.

Computerized War Gaming

The use of computers in war gaming is a step in the other direction where a maximum number of variables are inserted into a given situation. In the event of an automated tactical operations center a controller Automatic Data Processing System (ADPS) would be a necessity in order to match the player data processing capability. At the present time ADPS could be of great help. By using ADPS a myriad of variables can be put into a given area of consideration and a determination obtained very quickly. The Navy with their Electronic Maneuver Board System has already automated their war games. While the EMB is a war game rather than a CPX it has elements that can be of use in a CPX.

"The Electronic Maneuver Board (EMB) is basically a two-sided naval warfare simulator which provides the elements of mobility, fire power and intelligence on which the opposing commanders may exercise their pro-

⁴²Thompson L. Raney, Comments on CPX Control, Personal (CPX Control Survey, USACGSC, Fort Leavenworth, Kansas, 10 January 1964), p. 17.

fessional judgement in employment in a war game. The installation also allows rapid analysis of action resulting from the employment of assigned forces and for the appropriate results of such analysis to be reflected in the current capability of the assigned forces.

Analysis and evaluation of force employment is accomplished by umpires for operational factors and by a high speed digital computer for damage assessment and weapons employment.⁴³ (See figure 20).

The analysis of war gaming methods as applied to a CPX lead to the evaluation that realism is the end product to be achieved. This can be enhanced by keeping the methodology as simple as possible. The same problem was noted by members of the U.S. Army Strategy and Tactics Analysis Group.

"It is necessary to compromise between the desire for realism and the necessity for sufficient simplicity to permit solution within the limitations of time and the facilities available."⁴⁴

War gaming methods should include those areas of play where significant interactions occur as affected by the major effects categories.

Section IV

Realism

The reasons for the desirability of realism and its effect on an exercise have been touched on previously from various aspects. Specifically, whatever other bonus effects it may have, realism leads to a more effective exercise. This is particularly true when the CPX is conducted for test purposes. It will do the commander and staff little good, except perhaps to be drilled in the unit field SOP, to merely go through the motions in an exercise that is not realistic. A realistic exercise sim-

⁴³U.S. Naval War College, Operating Manual, Electronic Maneuver Board System (Naval War College, Newport, Rhode Island, 8 January 1959), p. I-1

UNCLASSIFIED

FUNCTIONAL DIAGRAM EMBS

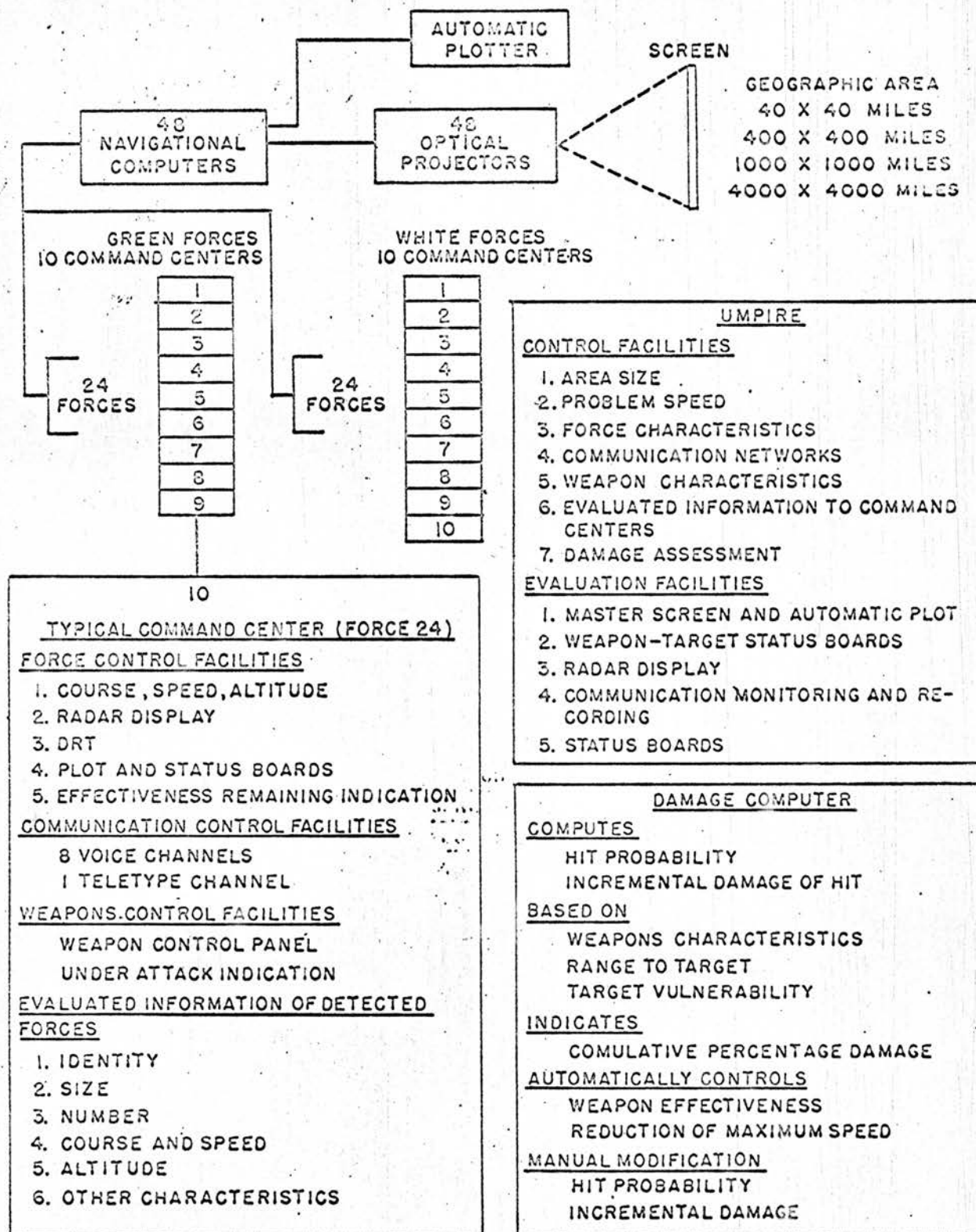


Figure 20

ulates conditions that are as close to probable future combat as possible. The Germans felt that the staff should be employed under wartime conditions. They enjoined the exercise director of a CPX to put the staff under pressure and cause "frictions" to appear in a convincing way. They felt that interjections should be as follows:

"These (interjections) include the superabundance of reports which pile up during critical times in particular, incorrect reports, 'rumors,' orders and reports which are already obsolete, reports sent out for deception, requests from neighboring units, higher headquarters - force staff to evaluate quickly and recognize what is important."⁴⁵

The basis of realism is more than harassing the staff. All control actions have an effect on realism, but the areas which have the most impact are:

1. War gaming methods.
2. Messages and messages play.
3. Aggressor action.
4. Control and player actions.

The personnel who answered the CPX control questionnaire felt that the following detracted the most from realistic play, listed in order of importance:

1. Time and space factors used.
2. Player actions.
3. Combat service support play.
4. Controller actions.
5. Aggressor play.
6. Nuclear weapons play.
7. War gaming methods utilized.

⁴⁵Rudolf, War Games (MS#P - 094, 1952), p. 22.

8. Intelligence play.

9. CBR play.

Other areas mentioned included movement limitations, too few people on the player staffs and the preconceived ideas of senior officers.⁴⁶ Note how many of these areas fall into the category of war gaming methods. 65% of the responders to the CPX control questionnaire stated that force ratios between opposing units were determined by estimate. About 60% stated that estimates were also used to arrived at the movement capability of an attacking units.⁴⁷ Almost half felt that controllers could not handle the various computations necessary to determine the outcome of various encounters in a timely manner, thus detracting from the realism of the exercise.⁴⁸ War gaming the effect of artillery is a good case in point. In order to play the effect of artillery whose effect upon an engagement is considered separately from that of direct fire weapons, various tables and computations have been devised. Most involve a battery or battalion volley of given caliber falling on a given area or amongst a type unit. Considering the number of battery or battalion volleys fired by opposing sides during a sharp engagement, the number of computations required becomes staggering. At division level up to 100 battalions of artillery might be engaged (considering both friendly and aggressor artillery). Over 70% of personnel with control experience queried indicated that the effects of artillery by battery or battalion volley could not be assessed manually in the time perimeters of a given tactical

⁴⁶Rutherford, op. cit., p. 16.

⁴⁷Ibid., p. 15.

⁴⁸Ibid.

engagement.⁴⁹ One way to eliminate this difficulty may be to add the artillery to the unit combat power ratio, rather than figuring artillery fire power separately. This would certainly be a more simple, much quicker method. The above method would probably add to realism of play since the fire power effect is still counted and the exercise will not have to wait on the controllers making their computations.

There are two criteria for the achievement of realism in utilizing war gaming methods. The methods must be capable of representing within reasonable limits the effects of the particular facet of operations under consideration. The results must be available concurrent with the conduct of operations.

Controller and player attitudes should not be such that they detract from realism. Players must have the attitude that they are indeed in combat and not fight the problem or ignore it. Exercise realism is provided by a believable presentation of the situation, good control procedures and correct attitudes.

Section V

Controller Player Relations

Controller player relationships are extremely important to the success of the exercise. This controller-player relation is sensitive and often times tenuous. It is subject to sudden strains and even complete disruption. It is the task of the controller to insure that controller-player liaison is maintained in a cordial, helpful manner. Three major

⁴⁹Ibid.

areas of concern that lead to strained relationships are personal unfamiliarity between players and controllers, misunderstanding usually concerning a procedure in use, and dispute of a controller decision.

Getting to know the opposite number through frequent contact will establish the desired personal relationship between controller and player. Knowing one another, unconsidered judgements concerning the play of the exercise are less likely to be made. Reason and fair play are conducive to correct control conduct.

Misunderstandings will more likely arise if the player is not fully aware of control procedures and rules of play. If the player is properly oriented prior to the exercise he will not be so prone to blame the control group for a particular quirk in the problem play.

Disagreements concerning the outcome of engagements will occur. Use of war gaming methods will help in this regard. They are not a substitute for common sense and judgement and cannot be adhered to blindly, but they do serve as a standard by which to make a determination. If the controller has applied the prescribed war gaming methods coupled with his own good judgement, he will make an acceptable decision. The player often operates in a aura of emotion charged pressures and is not in a position to accurately assess a given action, especially since he only has knowledge of the friendly side. In these situations the controller must use tact and diplomacy. In the event the argument cannot be settled then the chief controller must be informed so that the player can be informed by his superior of the action to be taken. The chief controller has an important role to play in the maintaining of close and harmonious relations between the player and control staffs. He is with the division commander

a good deal of the time during the exercise and can insure that the views of the control group are known.

Section VI

Summary

The methodology of control discussed in this chapter is of great consequence to CPX control. These systems, methods, and procedures are the heart of exercise control. The ability to execute the control mission in an adequate manner depends essentially on how well the control system is established and how expertly control methods are used.

The cardinal areas of concern in the application of principles of control are aggressor force play, combat service support play, and war gaming methods and techniques. Finally, controllers must be able to not only use control methods professionally, they must use them in a realistic manner.

CHAPTER V

EXERCISE PREPARATION

In the previous two chapters principles and procedures were developed concerning control organization and control methodology. There are also finite principles that govern the preparation and conduct of an exercise. Procedures for exercise preparation or conduct assume even greater importance since this portion of the study is more concerned with the working aspects of control. This chapter is concerned with exercise preparation while Chapters VI and VII will deal with the conduct of control during an exercise.

Section I

Preparation Tasks

The preparation for the control of a CPX is vital to its success. Many separate and varied tasks have to be accomplished during exercise preparation.

Prior planning to achieve the proper progression of preparation is initiated by key controllers prior to the formal organization of the control group. This planning provides for the control group organization, personnel requirements, tasks to be accomplished and formulation of the planning calendar. Implementing planning follows with the development of the exercise scenario and the writing of the control directive. Following the formal establishment of the control staff the following are accomplished, although not necessarily in the order listed.

1. Controller training.
2. Incident list.
3. Preparation of messages.
4. Establishment of control communications system.
5. Pre-exercise war game.
6. Rehearsal.

During the period of preparation, coordination and liaison are energetically conducted to insure correlated, integrated control of the exercise.

Two facets of exercise preparation that are major causes of difficulty are time for preparation and the establishment of adequate control communications. Another important aspect of exercise preparation is controller training. Training of controllers is the one means of dealing with the extensive lack of control experience normally encountered among personnel assigned to the control staff.

Section II

Preparation Time

Almost every unit stated different requirements for time in which to prepare for an exercise. For exercises initiated at corps and higher level, control groups generally had several months to prepare.¹ The available time at division was extremely short - a week in some cases.² The amount of planning and preparation required and/or the time available will determine the number of days allowed for preparation. Considering that there is enough

¹HQ Seventh Army, After Action Report, Exercise GRAND SLAM I (HQ Seventh Army, Stuttgart, Germany, 15 May 1962), p. 3.

²HQ 3d Infantry Division, Control Directive, CPX LITTLE ROCK (HQ 3d Infantry Division, APO 36, N.Y., N.Y., 3 Jan., 1964), p. 1.

available time prior to the exercise the chief controller figures his preparation requirements in terms of time. He is then able to translate this into a total amount of time required. Typical time allowances for division control preparation are as follows:

82d Airborne Division, CPX DRAGON HEAD	14 days ³
4th Infantry Division, Exercise MESA DRIVE	4 months ⁴
25th Infantry Division, CPX HANDA	2½ months ⁵
3d Infantry Division, CPX LITTLE ROCK	7 days ⁶

Note the wide time differential. The time that the 82d Airborne and the 3d Infantry Divisions had for preparation was woefully short of that required. A typical set of preparation tasks is a good measure of the total time that is required to prepare for an exercise. Shown below are normal preparation tasks with an estimate of time required to accomplish each task.

1. Planning requirements developed	1 day
2. Organization and orientation of the control group	1 day
3. Develop scenario	7 days
4. Write control directive	14 days
5. Controller training	7 days
6. Coordination with other staffs	5 days

³Franklin T. Garret, Controller Report on CPX 21-22 Jan., 1960 - DRAGONHEAD (HQ Control Group/Provisional, 82d A/B Div., Fort Bragg, N.C., 8 February 1960), Tab A.

⁴HQ Exercise Mesa Drive, Army Final Report, Exercise MESA DRIVE (HQ Exercise Mesa Drive, Fort Lewis, Washington, 30 June 1962), p. 7.

⁵HQ 25th Infantry Division, After Action Report, Exercise HANDA (HQ 25th Infantry Division, Fort William McKinley, Rizal, Phillippine Republic 21-25 June 1962), p. 1.

⁶HQ 3d Infantry Division, op. cit., p. 1.

7. Pre-exercise war games	4 days
8. Briefings	1 day
9. Incident list	5 days
10. Message writing	5 days
11. Administrative time (Preparation of work space, move to field and other miscellaneous matters)	<u>3 days</u>

Total 53 days

Taking into account miscellaneous tasks not included in the above calculations, about two months is necessary to prepare adequately for a division level CPX. The shorter the amount of time allowed for preparation, the more short cuts controllers must take to meet their deadlines. The results of preparation under pressure due to lack of time are generally unsatisfactory. The two areas given short shift under minimum time conditions are controller training and the development of a realistic portrayal of the aggressor. If these areas are neglected, the CPX tends to degenerate into a communications exercise with little professional gain by the participants.

The control group will probably not have all the time desired in which to accomplish preparation. In order to obtain the maximum out of the time allotted, a planning schedule or planning calendar is a necessity. (See figure 21 for a division exercise planning schedule) A planning schedule enables the chief controller to allocate the proper amount of time (within the scope of the total amount permitted) for each required task to be performed. This, in turn, allows subordinates to best utilize their time. The shorter the preparation time that is available to a control group the more essential a well thought out planning calendar becomes.

There are two other factors that affect use of planning time. The first is the control group SOP. Most control staffs at division level do

**TAB D: Exercise Planning Schedule - Controller Report on Command Post
Exercise (CPX) 21-22 Jan 60.**

- D-21 - Chief Controller receives Division Letter of Instructions
- D-14 - Chief Controller opens exercise planning headquarters and begins planning and guidance to G2 and G3 Controllers.
- D-12 - G2 and G3 Controllers complete general situation and general scenario.
- D-7 - Detail scenario completed by planning staff.
- D-4 - Draft of exercise messages completed and approved by Chief Controller.
- D-2 - Exercise messages reproduced in final form. Controller field installation (to include communications equipment) fully packed and tested. All materials, supplies and equipment packed for movement to field.
- D-1 - Control Group moves to field and rehearses, refines procedures and techniques.

Exercise Termination : 1 - Objective Critique.

Exercise Termination : 2 - After Action Report completed in draft form,

Exercise Termination : 3 - After Action Report submitted.

Figure 21

not maintain permanent control SOPs. Consequently, much information that is found in the control directive is repeated for each exercise. This great volume of rewriting for each exercise consumes valuable time. The continuity and uniform procedures provided by an SOP saves time for controllers. The existence of a control SOP when the control group is formed allows standard procedures to be followed from the beginning rather than after the control directive is written. A good example of a control SOP is the 7th Corps Guide for controllers. While it is a corps level document, a modified version could certainly be used at division level. The 7th Corps document contains information concerning the following subject areas:

1. Control group organization.
2. Planning calendar.
3. Budget analysis.
4. Administration and security.
5. Supply.
 - a. Control layout.
 - b. Supply requirements.
6. G1
 - a. Provost Marshal.
 - b. Civil affairs.
 - c. Casualty tabulator.
7. G2
 - a. Combat surveillance.
 - b. ASA
 - c. IPW/TI
 - d. CI
 - e. Guerrilla.

- f. Order of battle officer and NCO.
 - g. Action officer.
 - h. Intelligence annex format.
 - i. Weather and terrain.
 - j. Aggressor operation play format.
 - k. Sample incident list.
 - l. Message form.
 - m. Control situation report.
 - n. Unit combat effectiveness form.
 - o. Unit history form.
 - p. Aggressor actions.
 - q. Aggressor maneuver.
 - 8. G3
 - 9. Artillery.
 - 10. G4
 - a. Guide for QM controllers.
 - b. Engineer logistical controller SOP.
 - c. Guide for medical controller.
 - d. Ordnance controller SOP.
 - e. Transportation controller SOP.
 - 11. German liaison group.
 - 12. War gaming handbook.
 - 13. Pre-exercise war game.
 - = 14. Security SOP.
- Security guard instructions.⁷

⁷HQ 7th Corps, Guide for Controller (HQ 7th Corps, Moerhingen, Germany, June 1963), p. 1.

The foregoing represents an amazing amount of information, most of which would have to be rewritten for each exercise.

The other factor that affects preparation time is whether there is existant a permanent control group nucleus. About 25% of those answering the CPX control questionnaire stated that their unit had a permanent control organization. This 25% more than likely served on control levels higher than division. While a division may have a maneuvers branch, unless the personnel therein are controllers during both the planning and conduct phases of an exercise, they really do not constitute a control nucleus. A planner for control who then becomes a player destroys the validity of the CPX. It has been previously stated that the control nucleus should come from the G2 section. The G3 section in a division has six officers whereas the G2 section, including attached MID personnel, has 33 officers...(See TOE 7-4E and CGSC problems M1102 and 1103).⁸ Even if the military intelligence detachment is not attached to the division, an officer from the G2 section could be released for this duty on a full time basis, considering the nature of the G2 and G3 functions at division level during peacetime. If the workload of the sections is heavy then an augmentation of the section personnel could be arranged. Only one officer is required to perform the control planning function on a full time basis. Having a permanent control planning group would cut the CPX preparation time at division level to 15 or 20 days. A permanent control group would also enhance continuity and raise the standards of material published by the control staff.

Considerations affecting exercise preparation time are:

1. Allocate proper amount of time to each preparation task. Plann-

⁸ HQ Department of the Army, TOE 7-4E (HQ DA, Washington 25, D.C., 15 July 1963), p. 7.

ing calendars help in this record.

2. The following reduce preparation time for an exercise:

- a. Control SOP
- b. Permanent control group nucleus

Section III

Control Communications

The control difficulty mentioned the most number of times in the CPX control questionnaire and in after action reports concerned control communications.⁹ Typical comments were:

"Major control problem was commucation. Need more powerful radios and relays."¹⁰

"Utilization of organic communications for control purposes precluded on adequate test of the division's communications."¹¹

"Control communications though adequate was provided at the expense of player tactical facilities. This lowered the flexibility of communications means. Future exercises should provide separate control communications from other sources."¹²

"Inadequate communication means and overlap of frequencies."¹³

"Communications in general."¹⁴

"Communications. FM net not reliable."¹⁵

"Inadequate communications."¹⁶

"Communications. Distances too great. Lacked qualified personnel to maintain radios."¹⁷

⁹Andrew M. Rutherford, Command Post Exercise Control - Questionnaire (USACGSC, Fort Leavenworth, Kansas, 10 Jan., 1964), p. 14.

¹⁰Charles F. Drake, Comments on CPX Control, Personal (CPX Control Survey, USACGSC, Fort Leavenworth, Kansas, 10 Jan. 1964), p. 14.

¹¹HQ 4th Infantry Division, Final Report, Exercise BEAR PAW (HQ 4th Infantry Division, APO 39, N.Y., N.Y., 5 Nov. 1955), p. 2.

¹²HQ 7th Corps, Final Report, CPX GRAND SLAM I (HQ 7th Corps, APO 107, N.Y., N.Y., 30 April, 1962), p. 2.

¹³CGSC Students, Major Problem Areas in CPX Control, Extracts (CPX Control Survey USACGSC, Fort Leavenworth, Kansas, 20 Feb. 1964), p. 1.

¹⁴Ibid.

¹⁵Ibid.

¹⁶Ibid.

¹⁷Ibid.

The use of communications taken from the organic equipment of the division players results in shorting both the players and controllers and causes trouble in frequency overlap and maintenance. Ideally, signal equipment and personnel to support the control group should not come from the division. In many cases, however, it will come from the division. In this case the control communications system should be planned so as to affect the players the least and at the same time afford adequate communications for the control groups of the division.

The signal support officer must be brought in on the planning at an early phase so that he may have the necessary lead time to establish an adequate control communications system. The success of the CPX will depend on the adequacy of communications. In this regard, a communications test and shakedown can be accomplished when the control groups of the division establish their field control centers prior to the commencement of the exercise. This is usually done one or more days before the division initiates movement to the field.¹⁸ The control group must have multiple communication means two of which should be electrical in order to insure continuous play in case one system malfunctions. Wire and radio are the chief means. If available, teletype is a quick, convenient means of transmitting lengthy classified messages. It also provides a record of the transmission. Messenger, both motor and air, are good means of sending documents, overlays or maps. Photography offers an accurate and rapid way to record the situation from the situation map. After printing, copies can be disseminated by messenger.

Good communications depend not only upon the system and the equip-

¹⁸HQ 3d Infantry Division, Control Directive, CPX LITTLE ROCK (HQ 3d Infantry Division, APO 36, N.Y., N.Y., 3 January 1964), Annex E, p. 1.

ment but upon the operators.

The 4th Infantry Division, in order to insure proper communications for Exercise DRY HILLS, conducted a 60 hour communications course for controllers.¹⁹ Most other divisions did not conduct communications training for controllers. Their exercise after action reports indicated that they enjoyed less than satisfactory control communications.

Proper planning, equipment and training are the ingredients of satisfactory control communications.

Section IV

Training

Training, as it applies to the control staff, is an internal function concerned with the education of personnel assigned to control. Control training is required to teach the inexperienced controller his job and to achieve a minimum standard of proficiency for all controllers.

Standards of proficiency should be set by the Chief Controller, for he is ultimately responsible; however, it is the section chief who should train his people in the areas germane to his interest. The training responsibility is not restricted to division level. Subordinate controllers, usually the least experienced, require training. In areas of his staff responsibility the section chief does well to see that subordinate controllers meet acceptable standards.

There are several ways of executing the training program as well as various methods of conducting controller training. In order of intensity are briefings, indoctrination, practice and schools. All of these methods

¹⁹HQ Exercise DRY HILLS, Final Report, Exercise DRY HILLS (HQ Exercise DRY HILLS, Fort Lewis, Washington, 10 July 1959), p. 5.

separately and in combination can be utilized in accomplishing the training objective.

Briefings are usually given to outline for the listener concepts, schemes of maneuver and special items. Details are not developed.

Indoctrination is a short, intensive period of training lasting a day or less. Indoctrination is fairly effective as a refresher but of little use to the uninitiated. Indoctrination is used when there is not enough time to conduct a control school.

Schools can be of any length depending on time allowed. If time is at a premium then training may have to be conducted at night or only during a portion of each day. Schools are the most effective means of imparting the vast amount of information concerning CPX control that should be assimilated by the individual controller.

Instruction should not deal only with general control subjects. While there are many subjects that are of common value to all controllers, most controllers will deal only with a specific area. As an example, the G2 air controller needs to know in detail what the message injection procedure is for air reconnaissance mission results. However, the medical controller does not need to know that. There should be common subjects for all control personnel and specialized subjects taught only to those concerned.

Practical application consists of on the job training, pre-exercise war games and rehearsals. Rehearsals are of particular benefit to the uninitiated since the actual physical methods of carrying out controller actions are accomplished. Some units will run a pre-exercise practice controller CPX. If time is available, this is an ideal method of rehearsing for the CPX.²⁰

²⁰HQ 4th Army, Final Report, Exercise CLOVER LEAF III (HQ 4th Army Fort Hood, Texas, 27 April 1959), p. 5.

Those control experienced persons questioned indicated that the best way to alleviate controller inexperience was by establishing controller schools. About 70% stated that their control groups conducted some form of indoctrination or schooling. The length of training varied from two hours to two weeks, with the average length of time devoted to training being two days.²¹

Training requirements will vary according to the nature of the CPX and its objectives as well as the proficiency of controller personnel. While decentralized training is more convenient for the division control group, uniform standards are better achieved by conducting training for all controllers at division level. The conduct of training will vary the scope of the subject schedule. If all controllers are to be taught by the division control group then less time can be devoted to the applicatory phase of training than if only the division controllers were being instructed.

There are literally hundreds of subjects that could be taught at a control school. Training time available will average about one week, with the training schedule based on the time made available. Choice of subjects to be taught follow the rule of first things first. Every controller must know the purpose of the exercise, the exercise objectives, and his role in the exercise. He must also know how the exercise will be conducted, the methodology of control and the techniques for carrying out control procedures in his area of responsibility.

A sampling of subjects included in unit control school subject schedules gives an indication of subject requirements. The 4th Army CPX SOP (used by subordinate divisions) directs that a total of 52 hours be

²¹ Rutherford, op. cit., p. 10

included in the control school program of instruction.²² Highlights of the subject schedule included:

1. Control procedures
2. Casualty assessment
3. Intelligence
4. Artillery
5. Duties of staff controllers

8th Army included the following in its controller orientation for a CPX in which division controllers were present:

1. Purpose of CPX
2. Control mission
3. General description of CPX
4. G1 briefing
5. G2 briefing
6. G3 briefing
7. G4 briefing
8. Explanation of procedure using a sample play problem (using sample scenario).²³

Exercise DALLAS III, a combined U.S./Thailand guerrilla warfare and counterinsurgency maneuver, shows a type subject emphasis for combined exercises. The subjects at the combined control school for Exercise DALLAS III comprised the following:

1. Air transport of ground forces
2. Air-ground operations

²²HQ 4th Army, SOP for FTX, CPX and Maneuvers (HQ 4th Army, Fort Sam Houston, Texas, 10 June, 1955), Annex A.

²³HQ 8th Army, CPX Training Memorandum Number 12 (HQ 8th Army, Souel, Korea, 2 Oct. 1953).

3. CI operations
4. Guerrilla warfare operations
5. Exercise scenario
6. Exercise procedures
7. Records and reports
8. Communications
9. Check lists
10. Message distribution plan

This school was of three days duration.²⁴

These examples show very little similarity. The difference in scope of instruction and time allotment shows a wide divergence of actual training need or opinion on requirements.

Both individuals and units indicate that the following list of subject areas listed in order of importance most needed emphasis during control training.

1. Realistic play
2. Control procedures
3. Coordination
4. Timing
5. Assessment procedures
6. Reports
7. Standardization
8. Security
9. Understanding purposes and objectives of the exercise.²⁵

²⁴Joint US MAG to Thailand, Plan and After Action Report, Exercise DALLAS III (HQ Joint US MAG to Thailand, 10 Jan. 1962), 2-F-1.

²⁵Rutherford, op. cit., p. 10.

There is a need to cover certain fundamentals to insure minimum standards of controller proficiency. Fundamental subjects and subjects of common interest encompass the following:

1. Purpose of CPX
2. Description of CPX
3. Control mission
4. G1 (description of G1 control activities)
5. G2 -
 - a. Aggressor scheme of maneuver
 - b. Guerrilla operations
 - c. Aggressor clandestine operations
 - d. Description of intelligence play
6. G3 (description of G3 control activities)
7. G4 (description of G4 control activities)
8. Control communications
9. Control procedures
10. Records and reports
11. Incident list, messages and injections
12. Pertinent publications and references
13. War gaming procedures
14. Operational procedures
15. Administrative matters of common interest

Subjects within special areas of interest are too numerous to include in this paper. The subjects germane to the IPW/TI branch of the G2 section provide a good example of type special subjects:

1. Division POW SOP
2. Division TI SOP

3. IPW procedures
4. Aggressor order of battle
5. Aggressor tactics and doctrine
6. IPW report format and method of completing. Type information contained in report.
7. Messages and message format.
8. General POW play procedure
9. TI type items for play
10. TI report format and method of completing. Type information contained in report.
11. General TI play procedure
12. General and specific requirements for IPW/TI play
13. Specific responsibilities

Special detailed knowledge is required for each part of the control. Consider the time needed to teach the above subjects if the controllers concerned are not already specialists in IPW and TI work. Training problems are formidable where inexperienced personnel are concerned.

If there is not sufficient time to properly conduct training, expedients must be used. One method used to make up for lack of controller training was used during Exercise BIG DEAL, a combined CPX held in Korea. Controllers had an opportunity only to attend one day of school. To compensate for this paucity of instruction a controller's kit was issued. The kit contained exercise instructions on atomic play, a check list, controller guide, necessary maps and pre-exercise messages for injection.²⁶

A controller, even though he has been taught the duties in his area

²⁶HQ U.S. Forces, Korea, After Action Report, Exercise BIG DEAL (HQ U.S. Forces, Korea, 3 October 1959), p. 98.

of responsibility, will remain ignorant of the functioning of the control group as a complete entity until he has the opportunity to participate in the control group war game. The war game depicts the planned progress of the exercise graphically, action by action. Each controller is able to see how his control responsibility fits in with the overall control mission.

Section V

Pre-exercise War Game

The main objective of a pre-exercise is not to train, but to test the plan for control, correlate and coordinate the incidents and messages to be injected, and most importantly to see that provision is made to carry out all exercise objectives. Other war game purposes are:

1. Achieve coordinated and realistic aggressor play for the CPX.
2. Determine requirements and procedures for transfer of aggressor forces from one control group to another.
3. Practice war gaming techniques for use during the CPX.
4. Develop working procedures between control groups at various levels.²⁷

The 7th Corps control SOP defines the pre-exercise war game as:

"... a controller map play of the entire exercise, based as far as possible upon player plans for execution of their mission, and deploying Aggressor forces so as to best accomplish the objectives of the exercise Both friendly and aggressor troops will be maneuvered and a record kept of all major activities. Although controllers.... will maneuver friendly troops, it must be in conformance with unit plans..."²⁸

An example of war game play procedure is as follows:

Division control staff presents situation at beginning of the

²⁷HQ 7th Corps, Guide for Controller, Annex K, p. 1.

²⁸Ibid.

particular period of play. The time period may vary. A typical time period might be H+6 to H+12 hours. It is assumed that the division is in the defense for this explanation. Play is conducted in each brigade sector running north to south (or east to west). S2 of the brigade on the north will indicate aggressor movements and probable areas of advance within the time period under consideration. Brigade S3 presents brigade actions and indicates probable line of contact at end of period. Aggressor and division moves are discussed. The War Games' moderator adjudicates any differences of opinion between the S2 and S3 as to status or location of forces at the end of the time period under discussion that cannot be resolved during the discussion. All significant incidents and messages to be injected during the period including G1 and G4 activities are then related, their effect upon tactical play determined and any changes in status of forces are noted. Assessments are calculated for personnel and equipment. Any changes to the scenario deemed necessary are made.²⁹

An SOP is particularly time saving in the planning of a pre-exercise war game. It takes many hours to manufacture a suitable war game. If all of the details are contained in an SOP the planning is already accomplished and a great deal of time is saved. The following are pertinent statistics from the CPX control survey concerning control war games:

1. 75% of the control groups conducted control war games.
2. The time for the war game averaged between one and two days.
3. 95% believed that the war game achieved its purpose.
4. War games were conducted at battalion through Army level with the brigade and division having the highest frequencies.

²⁹Ibid., Annex K, p. 6.

War games are essential to the proper preparation of an exercise by a control staff. The war game is useful as a training vehicle and serves to point out areas of difficulty in the control of the exercise.

Section VI

Rehearsal

The pre-exercise rehearsal in the context of this paper is the physical rehearsal of controller activities from the control center in the field (or wherever the center is located) for the conduct of the CPX. The rehearsal includes the use of control communications as well as other control facilities. Most units move to their field positions two or more days prior to the initiation of actual exercise play for the purpose of conducting rehearsals.³⁰

The rehearsal is conducted far enough in advance of the exercise to allow enough time to correct any faults. Difficulties encountered at this late date usually entail facilities and communications. Some units will conduct a controller CPX as a form of rehearsal.³¹ The injection of pre-exercise play to build up the problem situation can serve as a vehicle for rehearsal. Liaison can be conducted readily with the players during this time to ascertain the effect of the situation build up and make changes in messages or procedure as necessary.

Section VII

Summary

Preparation for the CPX by the control group is of vital importance.

³⁰ Ibid., Annex A, p. 1.

³¹ HQ Exercise DRY HILLS, Final Report, Exercise DRY HILLS (HQ Exercise Dry Hills, Fort Lewis, Washington, 10 July 1959), p. 38.

The early initiation of control tasks and an orderly progression to their completion is essential. Control organization, acquisition of competent personnel, procuring of communications, and training and war gaming are salient considerations during preparation.

Principles concerning the preparation for exercise control that were identified in this chapter are:

1. Planning - Exercise preparation must be planned to obtain the most from the allotted time.
2. Standing operating procedures - A control SOP enhances exercise preparation.
3. Permanent control group - A permanent control group nucleus is desirable to promote efficiency and save manpower and time.
4. Reliable communications - Control communication system is planned and established prior to the exercise to insure its operability.
5. Training - A control school is a prerequisite to competent control group performance.
6. Testing - The control plan should be tested prior to the exercise to check its efficacy.
7. Rehearsing - The control group identifies any problems not uncovered previously and improves proficiency through rehearsal.

CHAPTER VI

CONDUCT OF CONTROL - OPERATIONS

The conduct of control will be considered from the aspect of operations and logistics. Due to the length of the analysis of both operations and logistics, the subject of conduct of control has been separated into two chapters. This chapter covers operations. Operations, as analyzed in this chapter, concerns the establishment and management of control. Other aspects of control that are part of, or have a great influence on the control of an exercise include message play, reports, and liaison procedures. These will also be examined in this chapter.

Section I

Operations

Control operations encompasses the use of facilities and procedures for executing the control mission. Control operations will be studied during the preparation, conduct and post termination phases of a CPX.

The operational structure and associated procedures are the means by which the control group executes its control plan.¹ The adequacy of coordination, liaison and message play is determined by the operational facilities and procedures utilized. While the method of conducting operations may vary somewhat with different types of CPXs, the considerations and

¹HQ USAREUR, SOP for Exercises, p. 2, Annex C.

principles governing the organization for operations and control procedures will not change.²

Pre exercise Operations

Prior to the CPX, the control group normally has a facility of its own in which to operate. Considering the space requirement for files, map boards, drafting equipment, reproducing equipment, conduct of training and the presentation of briefings, the garrison control facility should be extensive.

Within the allocated space each control element should be located so as to permit ease of access yet allow some privacy. Some control groups locate in large rooms so as to enhance coordination and allow installation of large map boards. Ease of access within the control group is essential as there is almost constant coordination taking place during the preparatory phase of an exercise. Therefore, the use of separate offices detracts from the efficiency of the staff. By the same token, if there are no partitions between staff sections, efficiency is reduced due to distractions and noise level. A compromise between placing each staff section in its own office and grouping elements of the staff together in one large room is a preferable means of physically organizing the control group.

Operations during the pre exercise planning period are conducted much as is normal division staff activity or any planning group activity.

Facilities required for operation depend largely on the desires of the chief controller. Desk space, not necessarily exclusive, is needed for the officers on control. Large upright map boards with 1:100,000 maps are needed for the G2, G2/G3, artillery, G1 and G4. G4 may require more than one map board depending on the amount of graphic planning to be conducted by

²Rutherford, op. cit., p. 18.

the G4 section. The G2 usually shares a "common" map with the G3. This map is used for joint G2/G3 planning. The G2 has a need for one or two sole user maps. Most intelligence aspects of play will be depicted graphically such as the aggressor scheme of maneuver, order of battle, ground radar locations, LAMP locations, air reconnaissance routes, agent locations and guerrilla targets. Each section also requires space to mount the numerous charts that they need to facilitate their planning. Files, drafting table, reproduction equipment and other administrative paraphernalia must also be fitted into the available space. If there is a security requirement the control operations should be completely centralized, otherwise the administrative element may be located separately from the remainder of the staff.

Activities of an operational nature that occur during the pre exercise period include training, briefings, coordination, liaison, supervising subordinate control groups, publishing of control instructions, transmission of reports, scheduling, pre exercise war games and rehearsals. Coordination and liaison are facets of operations that are conducted almost continuously during the pre exercise period.

Liaison

Liaison may be conducted personally or by an officer who has been assigned the duty. Personal liaison is of greatest importance and frequency during the planning stages of a CPX. In order to assure coordination and supervision section chiefs keep in close contact with the subordinate control groups. Efficient use must be made of subordinate officers within the staff sections to conduct liaison. Due to the great amount of

³Ibid., p. 23.

liaison required between control staffs, the section chief cannot accomplish all of the liaison and properly manage other aspects of his job. In order to achieve productive liaison it must be planned in advance.

A designated liaison officer, although he may be of junior rank, must be a knowledgeable, interested individual. In order to be knowledgeable he must know the concept of control and have intimate acquaintance with the details of the exercise. Planning for the utilization of liaison officers should be done at an early date concurrent with the derivation of other personnel requirements. Liaison officers are supervised by the deputy chief controller (See figures 1, 9, and 11).

The deputy chief controller, serving as a chief of staff, normally directs the operations of the control staff during the pre exercise period.⁴

Operations During Conduct of the Exercise

The most active period for the control group is during the conduct of the CPX. Heavy emphasis must be placed on operational procedures during this phase of the exercise as these procedures determine how well the plan of control will be executed.

Operations Facilities

Facilities will be affected by the location of the operations center, controller status (e.g. - whether acting as controllers only, or operating as players and controllers simultaneously), and equipment availability.

Generally, the basic facilities necessary for operations are similar to those required during the pre exercise period plus communications. The arrangement of facilities is best discussed by presenting

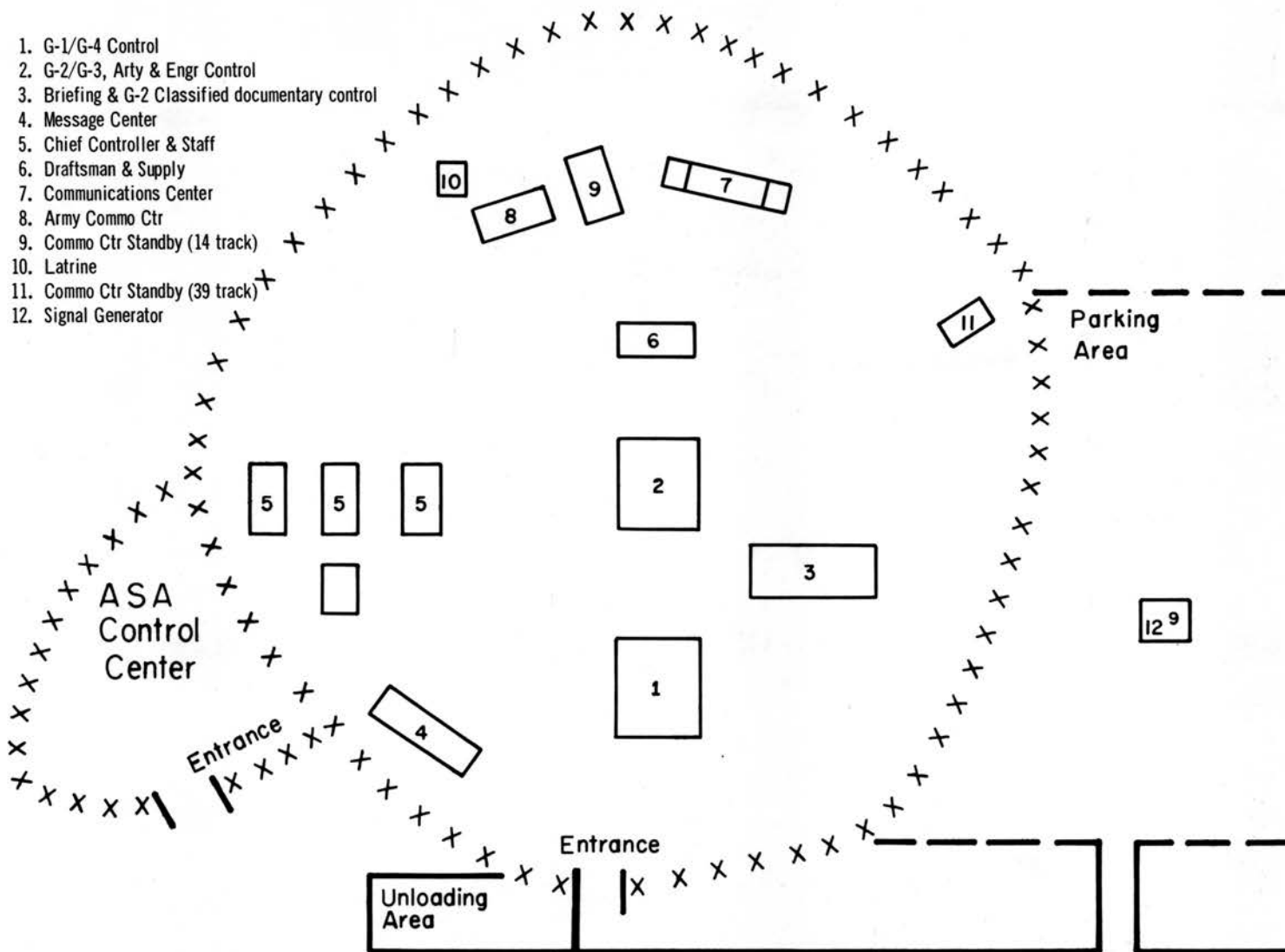
⁴USACGSC Instructors, Major Problem Areas in CPX Control. Extracts (CPX Control Questionnaire, USACGSC, Fort Leavenworth, Kansas, 10 Feb. 1964), p. 3.

examples. At figures 22, 23 and 24 are depicted three different operations centers. Figure 30 shows the 4th Armored Division control center in the field.⁵ In that center the G2/G3 are in the same tent. The G1/G4 also occupy a common tent. This arrangement relieves congestion by providing two separate work areas in the operations center. At figure 23 is a diagram of the 25th Infantry Division control center.⁶ The 25th Infantry Division controllers kept visitors from interfering with operations by restricting them to the front one-third of the operations center. Note that the G2/G3 have integrated maps and work at the same table along with the brigade action officers. The G1, G4 and G5 are located together for ease of coordination. Another item of significance about the 25th Infantry Division control operations center is the placement of a planning map so that planning can be accomplished away from the confusion of routine operations. The next control arrangement shown at figure 24 is not for a CPX, but for a CGSC division map maneuver. It is included here as a means of contrast with the two division control centers and because there are some features of it that apply to a CPX. Note the use of a master control map which aids in coordination. The use of a separate computation section centralizes that control activity. Separate computation groups are also included in some CPX control groups (See figure 10).⁷ All fire support for the CGSC map maneuver is grouped

⁵Lawrence S. Lodewick, Comments on CPX Control, 4th Armored Division (HQ 4th Armored Div., APO 326, NY., N.Y., 7 Feb. 64), p. 18.

⁶HQ 25th Inf. Div., CPX III-62 (HQ 25th Inf. Div., APO 25, San Francisco, Calif., 21 Nov., 62), TAB C.

⁷HQ 5th Army, Control Handbook, Exercise BIG BLAST XII & XIII (HQ 5th Army, Chicago, Ill., 30 Dec., 1963), p. 37.



DIVISION FIELD CONTROL CENTER

Figure 22

Control Center

Working Entrance

Tables for Controller

~~Hats and Coats~~

(X) (X)

Runners

Administrative Supplies

Journal
Clerk

Draftsmans Tables

G-2-3 Plan Map

G-2-3 SIT Map

Map Board

G-3 Hot Line

G-2 Hot Line

G-3

Battle Group

G-2

XXXXXX

Arty

XXX

G-3 Air Avn

Recon

G-2 Air

XXX

FS

G-5

G-1

Engr

XXX

Cml

Sig

G-4 DLOC

Visitors Observe in this Area Only

Visitors Briefing Maps

Chief
Controller
X

Visitors Entrance

Figure 23

Appendix 8 to Advance Sheet. Typical Arrangement of Umpire Cubicle

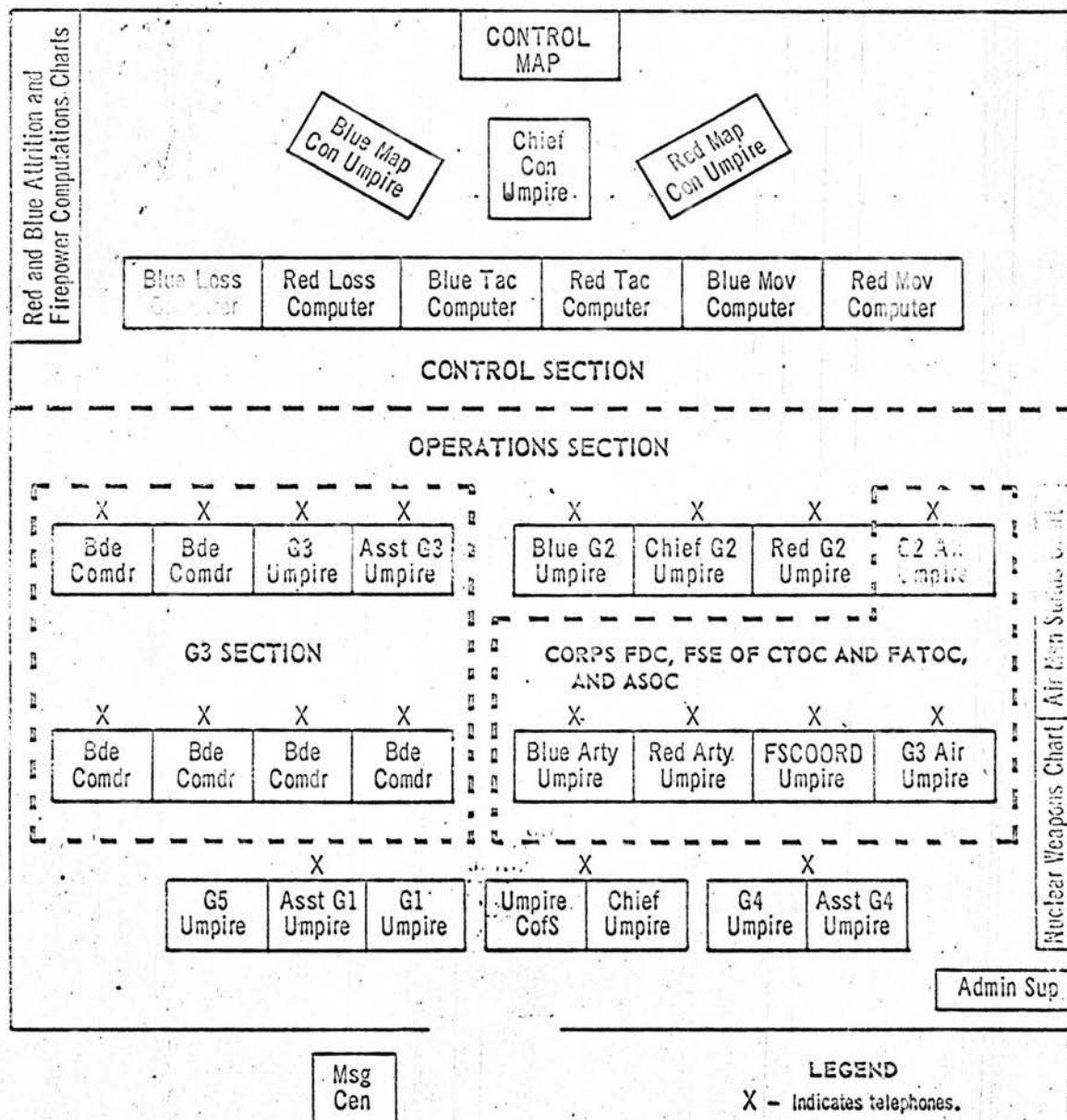


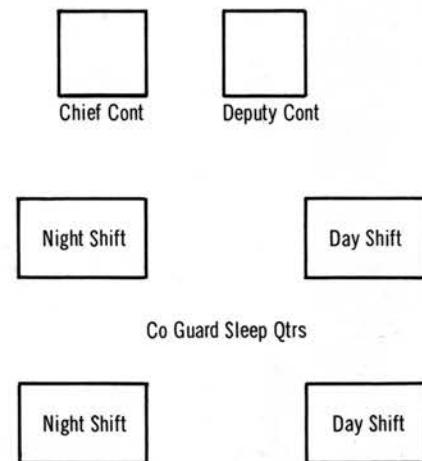
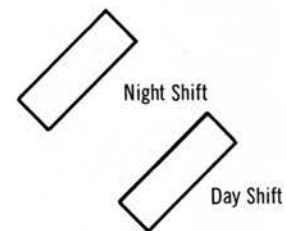
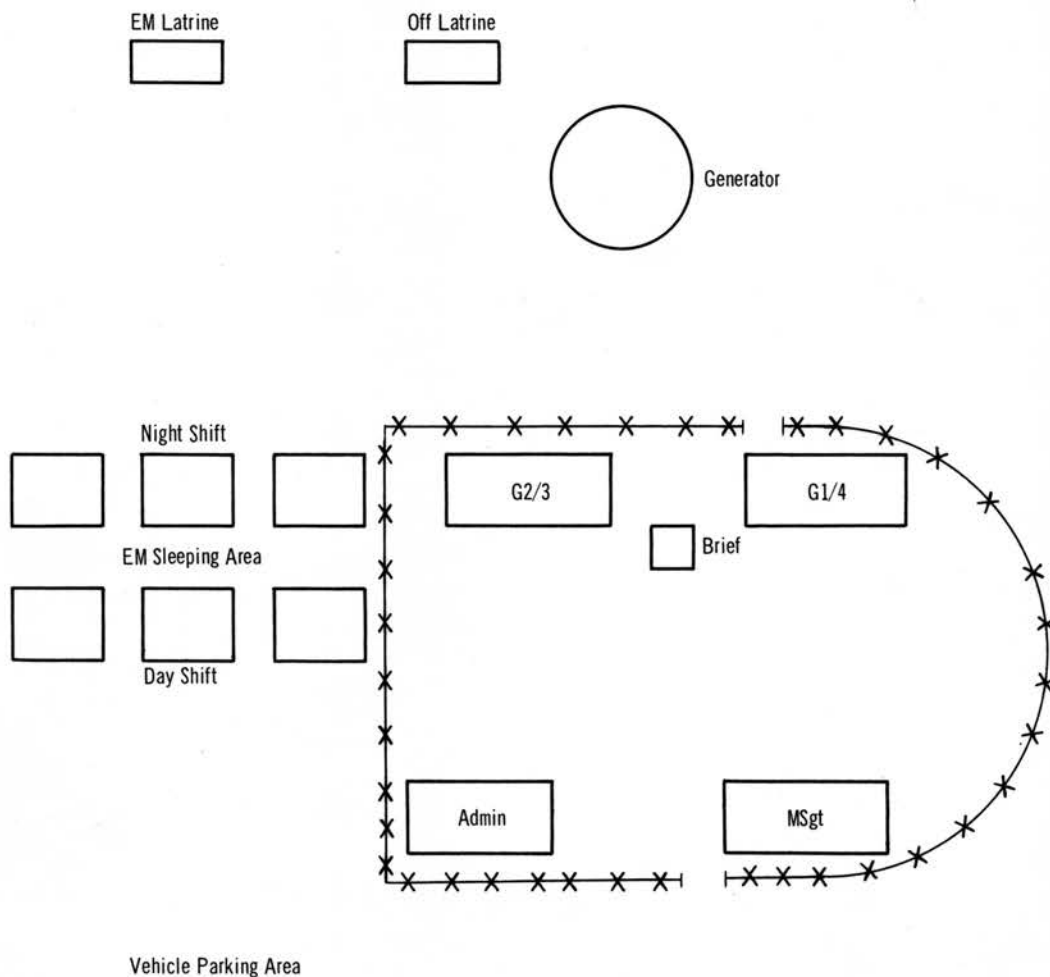
Figure 24

together as are the G1, G4 and G5. The G2 and G3 umpires are separated, but are near enough to coordinate without difficulty. Figure 25 shows the field organization for the 7th Corps control operations facility. Notice that here also the G1/G4 and G2/G3 are together in separate tents. In both of the division control centers shown the G2 and G3 sections were combined and worked off of the same map. This is essential in order that the aggressor and friendly forces can be properly located in relation to each other. The G2 will require at least one other map for his own use. The artillery and combined fire support means should be located in the same area, but with a separate fire support map.

The majority of personnel questioned stated that in control operations with which they were familiar, friendly units were depicted down to company size and aggressor units down to battalion size on the control situation maps.⁸ In terms of maneuver units, the controller at division level has to depict about ten friendly battalions and some forty-five aggressor battalions (for three aggressor divisions). When other units in addition to maneuver battalions are posted, the number of units to post may triple. The magnitude of the posting task becomes intolerable if units down to company size were depicted on the situation map. It may be that regimental instead of battalion size aggressor units are desired to be posted. The posting of aggressor regimental size units will still adequately depict aggressor unit locations. At division level, the posting of division size units does not present enough detail, while the posting of company size units causes inaccuracy, confusion and loss of time. Battalion size units best portray the situation at division level.⁹

⁸ Rutherford, op. cit., p. 18.

⁹ HQ 7th Army, Standard Control Reference Data (HQ 7th Army, Stuttgart, Germany, 17 August 1962), Annex C, para. 2.



A FIELD CONTROL CENTER

Figure 25

The plan for the physical layout of the various unit control operations centers were generally considered adequate by controllers.¹⁰ Those studied were similar to the diagrams shown at figures 22 and 23. Very few control groups conducted control of the CPA from a garrison location. While the majority of control groups were co-located with player command posts, an almost equal number, although in the field, were at a distance from the player CP.¹¹ Depending on the unit, different persons were made responsible for the establishment of the control operations center for the CPA. These included the chief controller, deputy chief controller, headquarters commandant, G3 and others. About 40% of the control groups made the headquarters commandant responsible, while about 25% designated the G3 as responsible for the establishment of the control center.¹² The establishment of the physical facilities on the control center is administrative in nature and should be managed by the officer in charge of support for the control group.

Operational Procedures

Activity during the conduct of the exercise is continuous. For this reason, control shifts are established. While some control staffs used three eight hour shifts,¹³ 60% utilized two twelve hour shifts.¹⁴ Amazingly, about 10% of the control groups used no shift organization.¹⁵ If the

¹⁰Rutherford, op. cit., p. 18. ¹¹Ibid. ¹²Ibid.

¹³HQ JTF Clear Lake, Final Report, Exercise CLEAR LAKE (HQ JTF Clear Lake, Eglin AFB, Florida, 8 June 62), Annex A, p. 1.

¹⁴Rutherford, op. cit., p. 18.

¹⁵Ibid.

CPX involves twenty four hour operations, it is difficult to see how a control group could conduct operations without using some type of shift arrangement. In about 10% of the control groups, the shift chiefs floated rather than being assigned to a shift.¹⁶ This is an excellent method of insuring close supervision and continuity. The shift chief, by overlapping the two shifts, can best supervise his entire section and stay abreast of the situation. Continuity is always a problem when shifts of people are employed. Utilizing a half hour to hour shift overlap is one means of alleviating this situation.

Control groups designate either the chief controller, deputy chief controller, or G3 as the person having responsibility for the operations center.¹⁷ Since the chief controller is gone much of the time and the principal staff officers are concerned with exercise control in their own areas of responsibility, the deputy chief controller is in a much better position to supervise the activities of the operations center than other controllers.

According to the CPX control questionnaire, the situation of the CPX and the control SOP or directive determine operational procedures during the conduct of the CPX. Approximately 20% of those queried indicated that procedures were determined by the chief controller as situations arose that required the use of different procedures. A permanent control SOP which sets forth operational procedures is a means of avoiding the above situation under most circumstances. Procedures that apply for most contingencies can easily be included in a SOP. If a SOP is not followed, very often confusion and improper play of the situation result.

¹⁶Ibid. ¹⁷Ibid.

Activities carried out in the operations center during the CPX parallel staff activities in a division tactical operations center (TOC). G2/G3 operations normally utilizes an action officer for each major subordinate control group.¹⁸ If there are enough personnel then an action officer may be detailed to contact higher and adjacent control headquarters if they are participating in the CPX. The shift chief may also handle this duty. Action officers receive and transmit all information from or to designated control groups. Other personnel carry out activities associated with their function and inject information by means of available communications. Most information injected by the division control group goes to division players. Information is not usually injected at other than the level from which it purportedly emanates. Information for injection at other than division level is given to the control group at that level for injection. The section chiefs operate continuously, consulting with one another, observing player actions, evaluating their portion of control and planning aggressor moves. As an example of planning aggressor moves, during Exercise GRAND SLAM II (a free play CPX) the 7th Corps control staff planned an envelopment maneuver involving five aggressor divisions. The maneuver was dictated by the exercise situation at that time. Detailed consideration was given relative combat power, the friendly and aggressor situations, terrain and aggressor supply and transport capabilities. Several changes were made in the plan because of logistic and force structure factors existent at the time. This type of planning by control staffs enhances the realism of a CPX.

If controllers are utilized in a player/controller status then the

¹⁸HQ 25th Inf. Div, After Action Report, Exercise HANDA (HQ 25th Inf. Div., Ft. William McKinley, Rizal, Phillippine Republic, 21-25 June 62), Annex C, p. 2.

control operations facility and control actions are somewhat different.¹⁹ Usually, player/controllers operate in the player chain of command utilizing player facilities.²⁰ In this case, the player/controller handles both friendly and aggressor forces. This type of control organization and operation creates a non learning environment and is to be avoided.²¹

Direction of Exercise Play

Injects, including message play, are the means by which play is directed. In order that the play be unrestricted, type messages with time, unit and location left blank are created. The 3d Infantry Division used a generalized incident list of type incidents for use with all of its exercises.²² (See figure 26.) Since injects are the basic tool that the controller uses to guide the development of the situation, particular care must be taken to see that message play is carried out correctly.

Controllers must actively pursue their play. A message or a series of messages are injected and the player reacts - to those messages plus other information received through player channels consisting of material injected by controllers at other levels of play. The controller sees the action develop as a result of report from subordinate control groups and liaison with players. The player action can then be determined and the controller can proceed logically with the development of the situation.

¹⁹HQ 7th Corps, Exercise SILVER SHIELD (HQ 7th Corps, Moehringen, Germany, 5 Oct., 62), p. 1.

²⁰HQ Exercise Mesa Drive, Army Final Report, Exercise MESA DRIVE (HQ Exercise Mesa Drive, Ft. Lewis, Wash., 30 June 62), p. 11.

²¹HQ USAREUR, SOP for Exercises (HQ USAREUR, Heidelberg, Germany, 23 July 62), Annex C, para. 4e.

²²W.C. Fisher, Comments on CPX Control, 3d Inf. Div. (HQ 3d Inf. Div., APO 36, N.Y., N.Y., 29 Jan. 64), p. 1.

CONTROL GROUP HEADQUARTERS
HEADQUARTERS, 3D INFANTRY DIVISION
APO 36 US Forces

G1 (CIVIL AFFAIRS)

Number	Incident	Injected	Remarks
A1	Road nets in the area of _____ coord _____ (location) receiving (light)(heavy) flow of refugee traffic traveling _____ (direction) at _____ MPH.	Co/Bn/Bde	
A2	TCP at coord _____ having difficulty with heavy flow of refugee traffic. Request assistance of GN Police.	Co/Bn/Bde	
A3	A column of refugees extending from _____ to _____ traveling _____ (dir) on route _____ has created a temporary impasse. Mil movements will be delayed _____ (time).	Co/Bn/Bde	
A4	Refugees have created an impasse in the (town)(village) of _____ (name) coord _____. Mil movements will be delayed _____ (time).	Co/Bn/Bde	
A5	Small group of enemy personnel believed to be disguised as refugees bivouaced in wooded area at coord _____.	Co/Bn/Bde	
A6	Burgermeister in _____ coord _____ request transportation for 500 refugee children to collection point at coord _____.	Co/Bn/Bde	
A7	Refugees refuse to get off MSR on route _____ coord _____.	Co/Bn/Bde	

Figure 26

What may appear to be a stop and go process is actually progressing continuously. Various control methods and procedures are used to keep the problem play from wandering off on some tangent. All incidents are tied to the scenario and the aggressor plan of operations. During the conduct of the exercise, subordinate controllers are required to report periodically (usually every four hours) on the player and controller situation at their level. This report is usually in the form of a situation report. Spot reports, flashed immediately, tell of any sudden or unusual occurrence.²³ Briefings are presented by section of shift chiefs once or twice a day for the edification of the control group.²⁴ Controllers, through liaison officers, or on their own, contact players and see how the situation is developing. As another measure, the chief controller may hold conferences on a daily basis, or as required, to insure that guidelines are being followed and to prepare for the next day's operations. The above are all means of monitoring the action. After having knowledge of the effect of his injected messages, the controller then can proceed to the next phase of the situation. The process of injection, monitoring and reaction may take place in a matter of a few minutes or it may take more than a day, depending on the situation that is being developed. An airborne assault might take two days to run its course, or a river crossing twelve hours to complete. The controller management of play throughout the development of situations must be logical and realistic.

The comments of the Commanding General, 11th French Mechanized

²³HQ 7th Army, Standard Control Reference Data, Para. 6a.

²⁴Albert G. Hume, Comments on CPX Control, Personal (CPX Control Questionnaire, USACGSC, Ft. Leavenworth, Kansas, 10 Jan. 64), p. 17.

Brigade in a critique of Exercise WINTER SHIELD II are indicative of this point.

"Umpiring is a very sensitive function... In certain instances... decisions...tended to change the concept of maneuver. Thus it would only be fair that the commander, who directs his part of the play, should be kept informed just as it would be the case during actual hostilities... Once a bridge was (declared) "destroyed" - actually it was not. Another time the detonation of an (friendly) atomic mine was announced while a friendly combat command was located right on the ground zero."²⁵

There are five salient areas of activity that are carried out during the conduct of control operations for CPXs.²⁶ They are message injections, reaction to player actions, coordination, information dissemination and planning.²⁷ These actions enable the exercise to be controlled so that players may respond in an adequate manner to exercise requirements and allow appropriate development of player instituted situations. These tasks are executed properly through the use of adequate methods and procedures planned for in advance.

Computerized Operations

Computers have been used during some exercises at division level, but only by players.²⁸ Their use has been restricted not only because of their cost but because of the general lack of awareness concerning the capabilities of the computer. Computers can be especially useful in the storing and utilization of mass data such as tabulation of losses in personnel and equipment and for war gaming purposes. In a study concerning

²⁵HQ 7th Army, Critique on Exercise WINTER SHIELD II (HQ 7th Army, Stuttgart, Germany, 21 Feb. 61), p. 13.

²⁶HQ USAREUR, SOP for Exercises, Annex C, app. 1, para. 4.

²⁷HQ 3d Army, Control Handbook for CPXs (HQ 3d Army, Ft. McPherson, Ga., 18 Jan. 60), p. 1-6.

²⁸HQ 7th Army, After Action Report, Exercise GRAND SLAM I (HQ 7th Army, Stuttgart, Germany, 30 April 62), p. 14.

the application of the automatic data processing system (ADPS) to the SYNTAC it was found that -

"A computer is not feasible for the sole purpose of keeping the written records now used by a control group."²⁹

Other disadvantages of mechanization discovered by the SYNTAC study were the difficulties in communication between controllers and the computer and less accessible information than present overlays and written records afford.³⁰ The study evaluated seven factors pertinent to the play of a CPX. The summary of the study results concerning these factors is at table 8. The present development of computers plus the current lack of knowledge of this field by Army officers precludes the mechanization of control operations at this point in time. When the division TOC is mechanized then the control operations center should also utilize ADPS. At the present time it is not necessary nor feasible.

Post Exercise Operations

Following termination of the CPX, selected controllers remain with the control group to accomplish termination tasks. These consist of the writing and forwarding of after action reports and evaluations (if the control group was given an evaluation mission), presenting a critique to controllers and players, revising the SOP and physically closing out the control activity.³¹ The two most important tasks to accomplish during this period are the writing of the after action report and the revision of the control group SOP. Most CPX control directives specify an after action

²⁹Alan G. Eddy, Application of the Automatic Data Processing System(s) (ADPS) to the SYNTAC System of War Gaming (Technical Operations, Inc. Ft. Monroe, Va., 1 Aug. 59), p. 3.

³⁰Ibid., p. 7.

³¹HQ USAREUR, SOP for Exercises, Annex C, app. 1, para. 5.

TABLE 8

SUMMARY OF SYNTAC STUDY RESULTS

	Completeness of objective description	Amount of input information	Estimated computer size	Range of applicability
Line of contact	Fair	Medium	Small	Fair
Special situations	Very poor	N/A	N/A	N/A
Atomic casualties	Good	Large	Small	Good
Artillery casualties	Good	Large	Small	Good
Close combat	Good	Small	Small	Fair
Communications electronics	Good	Small	Small	Good
Intelligence	Poor	Very Large	Medium	Not determined

report format indicating special areas of interest (See figures 27 and 28). The control group after action report comments on control matters only. It is not designed to be a critique of player actions.³² One means of acquiring a broad spectrum of comment upon which to base the control after action report is the use of a post action controller comment sheet.³³ The comment sheet is filled out by all officer controllers and submitted to section chiefs. The section chiefs in turn make out the section portion of the division control group after action report. Appropriate after action remarks made by subordinate control groups are included in the division after action report.

A post exercise critique should be conducted for the control group. If a critique is given to players it may take one of two forms - the control portion of a formal exercise critique, or an informal critique held for the benefit of the division staff only. This controller critique is not a criticism of player activities. It deals with controller actions and problems.

A most important aspect in the termination of the control activity is the proper disposition of files, materials and equipment belonging to the control apparatus. If there is a permanent control group or an officer acting in that capacity, or even an enlisted custodian, disposition of the control group assets does not present a problem. However, if the control group is completely dissolved after each exercise it is essential that proper procedures are established to care for the control group property.

³² HQ 7th Corps, Exercise Directive, FTX FROSTY LION (HQ 7th Corps, Moehringen, Germany, 1 Dec. 63), p. 1.

³³ HQ 1st Corps, FTX EVERREADY GEORGE (HQ 1st Corps, Korea, 13 April 1953), Chapter 2, p. 1.

APPENDIX I

CONTROL FINAL REPORT

TO: Chief Controller, Control Headquarters

FROM:

1. Reception of Controllers. In what way can the reception of Controllers be improved?
2. Controller School
 - a. What subjects not included should have been covered?
 - b. In what way could the subjects covered have been improved?
 - c. Were unnecessary subjects covered?
 - d. Should the time allocated per subject be increased, decreased or remain about the same?
3. Control Personnel
 - a. Were the control personnel adequate in number? If not, explain.
 - b. Were control personnel qualified? If not, explain.
4. Control System. Was the control system adequate in the following area? If not, give specific examples and suggestions for improvement.
 - a. Scenario
 - b. Preplanned messages
 - c. Devised messages
 - d. Casualty and damage assessment system
 - e. Aggressor play
 - f. Communications system
 - g. Facilities
 - (1) Space
 - (2) Maps
 - (3) Equipment
5. Play of the Exercise. Specific comments are desired with respect to the adequacy or inadequacy of the exercise play as follows:
 - a. G1 play
 - b. G2 play
 - c. G3 play
 - d. G4 play
 - e. G5 play
 - f. FATOC play
 - g. ALOC play
 - h. Rear area security (Army)
 - i. Rear area damage (Army)
 - j. Nuclear Weapons play

- (1) Was proper planning guidance provided by the Commander?
- (2) Were staff estimates complete and accurate?
- (3) Was the decision complete and realistic?
- (4) Was target analysis by special weapons officer complete and accurate?
- (5) Was the effect of contamination on the scheme of maneuver considered?
- (6) Did player staffs consider time and space factors?
- (7) Was troop notification prior to nuclear attack effected, if applicable.
- (8) Was aggressive action taken to obtain damage assessment and post-strike information?
- (9) Was pre-strike target surveillance aggressive?
- (10) Instances of outstanding employment of nuclear weapons.
- (11) Instances of outstanding employment of chemical agents.

k k.

CBR Play

- (1) Were chemicals employed aggressively?
- (2) Were chemicals considered in barrier planning?
- (3) Was the effect of chemical employment on future plans considered?
- (4) Instances of outstanding employment of chemical agents?
- (5) Instances of poor employment of chemical agents.

l. Army Aviation Play

m. Air Defense Play

n. Tactical Air Play

o. Troop Carrier Play

p. CAMG Play

q. Special Forces Play

r. Electronic Warfare Play

s. Others

6. Lessons Learned. From observing player staffs, what were the important lessons learned, or what doctrine was re-emphasized in specific areas (Name and area and comment).

7. Continuing Problems. What problems arose during the exercise for which there was no ready solution and which should be the subject of further study?

Section II

Incidents, Messages and Injections

Incidents, messages and injections are closely related. an incident is an occurrence or situation. The player is made aware of an event or situation by means of messages. Injections are messages or other material, such as maps or documents, physically placed into the problem.

Incidents

Various incidents are formulated to reflect the fabric of the scenario. An incident and a sample page of an incident list are shown at figure 29. The incident at figure 29 which indicates aggressor intent to initiate chemical warfare will be reflected by only one message. In some cases, many messages are used to give information of an incident, or develop a situation. Incidents are placed in an incident list chronologically. Sections within the control group and all subordinate control groups within the division may have separate or combined incident lists. When incidents from all control groups within the division are combined the document is referred to as a master incident list. The incidents within an incident list may or may not be completely integrated. It is desirable that there be complete integration within the master incident list.³⁴ This allows the reader to receive the complete picture of the flow of problem activity within selected time limits. That is, at H hour, for example, the reader can quickly perceive what will be occurring rather than having to check several sections or even separate lists. The master incident list is an excellent means of coordinating the message play of all controllers within the division. The sample incident at figure 29 is a specific

³⁴Rutherford, op. cit., p. 17.

INCIDENTS EXERCISE GRAND SLAM II

FOR CONTROLLER EYES ONLY

NR Day/Time	INSTALLATION & G/Z	INCIDENT AND REMARKS	INJECTED BY	PRIMARY CON	EXPECTED REACTION
167 H/5		Defector reported that men assigned to the depot at LEIPZIG (US 1891) worked on four hour shifts filling land mines with a liquid (unknown). There have been many accidents and those involved never returned to work. The workers always wore rubber suits and many complained that four hours was much too long to work under those conditions.	4th AD	Cml	Notify G2, Cml Ammo dump

(Sample Incident List)

150

Figure 29

FOR CONTROLLER EYES ONLY

incident to be played at a given time. Examples of type incidents are shown at figure 26. The example at figure 26 is not an integrated list. All of the messages concern civil affairs.

Incidents are developed using the scenario as a guide. The incidents used by the various sections of the control staff are correlated through personal coordination. During the pre exercise war game, the incidents are checked against each other, the scenario and problem time to insure alignment.

Messages

Messages are both pre planned and written and extemporaneous. About 75% of the control groups studied used pre planned and written messages.³⁵ Most also used "type" messages that had certain parts left blank so that they could be completed and inserted at the proper time.³⁶ A type message allows flexibility, saves time and is an aid to a staff that is short personnel. It also is of help to an inexperienced controller who may not know how to formulate a message to fit a given situation. At figure 30 is an example of type LRRP messages for use in a CPX. The number of messages prepared by control groups prior to a CPX varies between one hundred and five hundred. The great majority of units used standard message formats (See figure 31). A standard message format reduces confusion, assists in coordination, aids in the formulation of the message and the keeping of records. Note that the message format at figure 31 contains several reminders that are an aid to the controller, such as relationship between time of the incident and when the information should be given to players, player reaction to the message, action agencies and coordination action.

³⁵Ibid. ³⁶Ibid.

TAB A

MESS
NO

A	B	C	D	E
1 At Coordinates _____ 5xPT76 Tanks, 11xT54 Tanks, 14xBTR 40 APC's, 2 Jeeps, & 16 Trucks moving SW 15 mph Sited _____ Z	At Coordinates _____ 4xPT76 Tanks, 19xT54 Tanks, 12xBTR 40 APC's 2 Jeeps, & 13 Trucks moving SW 15 mph sited _____ Z	At Coordinates _____ 3xPT76 Tanks, 7xT54 Tanks, 10xBTR 40 APC's 1 Jeep & 10 Trucks moving SW 10 mph Sited _____ Z	At Coordinates _____ 5xPT76 Tanks, 7xT54 Tanks, 10xBTR 40 APC's 1 Jeep & 10 Trucks moving SW 10 mph Sited _____ Z	At Coordinates _____ 4xPT76 Tanks, 10xT54 Tanks, 12xBTR 40 APC's 2 jeeps & 14 Trucks in an as- sembly area. Sited _____
2 At Coordinates _____ 2xPT76, 3xT54 Tanks, 3xBTR 40 APC's, 1 Jeep & 2 trks moving SW. 20 mph Sited _____ Z	At Coordinates _____ 1xPT76, 3xT54 Tanks & 3xBTR 40 APC's mov- ing SW. 15 mph Sited _____ Z	At Coordinates _____ 1xPT76, 2xT54 Tanks, & 2xBTR 40 APC's moving SW. 10 mph Sited _____ Z	At Coordinates _____ 2xPT76, 3xT54 Tanks, 3xBTR 40 APC's, 1 Jeep, & 2 Trks in an assembly area. Sited _____ Z	At Coordinates _____ 1xPT76, 3xT54 Tanks & 3x BTR 40 APC's in an assembly area Sited _____ Z
3 At Coordinates _____ 23xAPC, 6x57mm AA Gun & 10 Trks moving SW. 15 mph Sited _____ Z	At Coordinates _____ 20xAPC, 4x57 mm AA Gun & 8x Trks Moving SW. 15 mph Sited _____ Z	At Coordinates _____ 17xAPC, 3x57mm AA Gun & 7xTrks moving SW. 15mph Sited _____ Z	At Coordinates _____ 22xAPC, 6x57mm AA Gun & 10xTrks in an as- sembly area. Sited _____ Z	At Coordinates _____ 20xAPC, 4x57mm AA Gun & 8xTrks in an as- sembly area. Sited _____ Z
4 At Coordinates _____ 31xT54 Tanks, 3xBTR 40 APC's & 1BTR 152 ACV Command Veh moving SW. 15 mph Sited _____ Z	At Coordinates _____ 28xT54 Trks, 3xBTR 40 APC's & BTR 152 ACV moving SW. 10 mph Sited _____ Z	At Coordinates _____ 25xT54 Tanks, & 2BTR 40 APC's moving SW. 15mph Sited _____ Z	At Coordinates _____ 31xT54 Tks, 3xBTR 40 APC's & 1BTR 152 ACV in an assembly area. Sited _____ Z	At Coordinates _____ 29xT54 Trks, 2BTR 40 APC's & 1BTR 152 ACV in an assembly area. Sited _____ Z
5 At Coordinates _____ 31xT10 Tks, 3xBTR 40 APC's & 1xBTR 152 ACV moving SW. 10 mph Sited _____ Z	At Coordinates _____ 28xT10 Tks 2xBTR 40 APC's & 1xBTR 152 ACV moving SW. 15 mph Sited _____ Z	At Coordinates _____ 25x T10 Tks, 2BTR 40 APC's & 1BTR 152 ACV moving SW. 10 mph Sited _____ Z	At Coordinates _____ 31xT10 Tks, 3xBTR 40 APC's & 1xBTR 152 ACV in an assembly area. Sited _____ Z	At Coordinates _____ 29xT10 Tks, 2xBTR 40 APC's & 1xBTR 152 ACV in an assembly area. Sited _____ Z

Figure 30

CLASSIFICATION

TO: _____ Incident Nr: _____
 Injected by: _____ Primary Control Agency: _____
 Date/Time of Incident: _____
 Date/Time of Injection: _____
 Message: EXERCISE GRAND SLAM II

EXERCISE GRAND SLAM II

Player Reaction (For CONTROLLER use ONLY):

Action Agencies (List Agencies this
incident will effect)

Coordination (List agencies with
whom coordination was accomplished)

CLASSIFICATION

Journal Nr: _____

This document will be des-
troyed NLT 1 May 1968

SCP-4

At each level of control a given type of information is inserted by controllers. The information must be commensurate with the information acquisition capability at that level. It is also desired that certain information or indications be inserted into the play of the exercise during a given period of time. A guide for actions satisfies this requirement. At figure 32 is an example of a guide for aggressor actions for a seven hour period. While the incident list insures insertion of information, the guide gives a sharper picture to the controller as to what type of activity he should be presenting to the player. The guide offers latitude for injection of impromptu messages. This type guide is an adjunct to, not a substitute for, an incident list.

Injections

An injection is an insertion of information in any form into the play of the exercise. An injection may be a message, report, document, map, overlay, photograph or any type of material. Technical intelligence play, for example, may be effected by the injection of photographs of materiel and accompanying descriptive messages. Maps, overlays and documents which require analysis by player may be injected to add variety and realism to the play of the CPX.

Incidents, messages and injections must be coordinated, aligned and correlated with each other and the exercise situation.

Section III

Reports

Reports are important to the control and recording of play. The following types of control reports are utilized by over 50% of control groups according to the CPX survey:³⁷

³⁷Ibid., p. 21 (Also referred to as questionnaire).

GUIDE FOR G2 CONTROLLERS (AGGRESSOR ACTIONS)

AGGRESSOR ACTIONS

D plus 4 (17 March)
1700 - 2400

	CORPS	4 ARMD	11 ABN	GERMAN
Lowering of moral	X	X	X	
Difficulties moving supplies	X	X	X	
Difficulties moving reinforcements	X	X	X	
9 Tk Div moving W through COBURG	X			
u/i Tk Div moving W from SCHLEUSINGEN	X			
232 Mecz Regt compresses 502 A/B Bde			X	
Active Patrolling		X	X	
No atomic strikes	X	X	X	
Cut-off units (502 ABG 24 Tk Regt)		X	X	

IDENTIFICATIONS:

9 Tk Div	X		
103 Mecz Div			X
231 Mecz Regt			X
232 Mecz Regt			X
233 Mecz Regt			X
903 Mtcl Bn (screening W bank)			X
11 Mecz Div		X	
24 Tk Regt		X	
411 Mecz Regt		X	
413 Mecz Regt		X	
30 HTAG Regt		X	
311 Mtcl Bn		X	

COORDINATION POINTS 172000 MARCH:

HABICHTSTAL (NA 2946)	X		X
BAD WIMPFEN (NV 1253)	X	X	

Figure 32

1. G2 Situation Report.
2. G3 Situation Report.
3. G1 Situation Report.
4. G4 Situation Report.
5. Final Report.

Other control reports used with frequency included:

1. Operational Situation Report (G2/G3 combined. See figure 33)
2. Personnel Daily Summary (PDS) Report.
3. Front Line Trace.
4. Air Force Reconnaissance Report (See figure 34).
5. Control Critique.
6. Evaluation Report.

It was determined from the CPX control questionnaire that about 75% of control groups use standardized report formats, but about 50% of the formats were changed with each exercise.³⁸ It was also indicated that subordinate controllers had some difficulty in obtaining and reporting in a timely manner all of the information required of them.³⁹ The solution is the use of a minimum number of simple, standard format reports.⁴⁰ An example of such a report form is the casualty assessment form depicted at figure 35. The form could be improved further if lines 2 a, b and c under friendly forces and lines 2 a and b under aggressor forces were eliminated. This would leave but six entries. Reports concerning nuclear weapons play

³⁸Ibid.

³⁹Students, USACGSC, Major Problem Areas in CPX Control, Extracts (CPX Control Questionnaire, USACGSC, Ft. Leavenworth, Kansas, 20 Feb. 64), p. 14.

⁴⁰HQ JTF Clear Lake, Final Report, Exercise CLEAR LAKE, Annex B, p. 2.

Exercise

TIME AND DATE OF REPORT (AS OF TIME) _____

AGGRESSOR FRONT LINE TRACE (BY UNIT IN CONTACT) _____

Figure 33

Seventh Army
STUTTGART/VAIHINGEN, GER
17 August 1962

Appendix 1 to Annex H (G2 Air/G3 Air Control Procedures) to Standard
Control Reference Data for Command Post Exercises

AIR RECONNAISSANCE MISSION RESULTS	
DATE/TIME: N/A	FROM: N/A
	RECEIVED BY: N/A
----- ABOVE LINE FOR ASOC & GLO USE ONLY -----	
A. FROM: N/A	B. TO: N/A
C. PRIORITY: N/A	D. MISSION NR: Y-9-1
E. 1 - INFLIGHT 2 - DEBRIEF 3 - PHOTO 4 - POST STRIKE 5 - PRE STRIKE	
F. SIGHTING NR: 1	G. VISIBILITY: GOOD
H. LOCATION: *F345/10KM/R9	I. DATE/TIME: 210930 Sep 62
Column of Armor estimated 150 vehicles moving West.	
F. SIGHTING NR: 2	G. VISIBILITY: GOOD
H. LOCATION: *F345/20 KM/L4	I. DATE/TIME: 210932 Sep 62
Missile launching site-active.	
F. SIGHTING NR: 3	G. VISIBILITY: GOOD
H. LOCATION: *F345/35KM/R5	I. DATE/TIME: 210935 Sep 62
River crossing operation in progress.	
F. SIGHTING NR: 4	G. VISIBILITY: GOOD
H. LOCATION: *F345/50KM/L6	I. DATE/TIME: 210940 Sep 62
POL dump-active.	
----- BELOW LINE FOR ASOC USE ONLY -----	
G2 Opns:	V Corps:
Map:	Chart:
Info:	VII Corps:
SAARSCO:	II GE Corps:
CENTAG:	III GE Corps:
File:	PSCS:

AET Form 350-R, Revised 6 May 60

* Sightings refer to LSS route(s) flown. In those instances when the mission is specific or area search, coordinates would be given.
Appendix 1 to Annex H (G2 Air/G3 Air Control Procedures) to Standard
Control Reference Data for Command Post Exercises

Figure 34

CONTROL FORM 1

CASUALTY ASSESSMENT FORM

Unit _____ Assessment Nr _____

Ref Tactical Msg _____ Time _____

Friendly Forces

1. Killed in Action _____
2. Wounded in Action (Total a/b/c) _____
 - a. Litter _____
 - b. Surgical _____
 - c. Walking _____
3. Missing in Action _____
4. Captured _____

Aggressor Forces

1. Killed _____
2. Wounded _____
 - a. Non-Wounded _____
 - b. Wounded _____

DISTRIBUTION:

- 1 - Unit
- 1 - Next Higher G1 Controller
- 1 - Retained by Controller

-3USA Con Form Nr 1
Local Reproduction Authorized

TAB A - Incl 1 - Con Handbook

were found to be lengthy and complicated by a mass of details. The proper play of aggressor nuclear strikes involves reports from various observers of units near the burst area. Control groups require information of the nuclear burst so that they may take proper actions.⁴¹ A simple, easy to use nuclear weapon report form is shown at figure 36. It has eight entries which are considered minimal where nuclear play is concerned. It is emphasized that nuclear play procedures, including reports, should be rigidly standardized to assure effective control.

The controller effectively monitors the exercise through receipt of reports and personal visits as indicated earlier in the paper. Reports are essential to the process of control. How well the controller can monitor play is determined by the number, type and format of the required reports. After the exercise, the file of reports are the source of data for the control after action report. The inclusion of report forms in the division control SOP serves to standardize and make samples available for all controllers in the division.

Section IV

Summary

There are many procedures used during the conduct of operations. Certain procedures, such as controller actions to monitor play, should be used under all conditions. The use of other procedures depends on the type CPX, the circumstances under which it is conducted and the personality of the chief controller. A chief controller, for example, may decree that there be three shifts in the field rather than two. This is an acceptable procedure as long as there are sufficient personnel to man each shift.

⁴¹HQ 7th Corps, Control Directive, Exercise PEACE MAKER/AUTUMN SHIELD (HQ 7th Corps, Moenringen, Germany, 6 Oct. 61), Tab C.

Inclosure 1 (Report Form) to
 Appendix 1 (Nuclear Control Instructions) to
 Annex C (Fire Support Control Procedures) to
 Standard Control Reference Data for Command Post Exercises

Classify CONFIDENTIAL When Completed

FROM: _____ Control

TO: _____ Control

A. (Incident/Target Nr) _____

B.** (Ground Zero) _____

C.** (DTG strike) _____

D.** (Yield and type burst) _____

E. (Target Description) _____

F.** (Damage - % pers, % tanks and arty, % vehicles) _____

G.* (delivery) _____

H. (Remarks in clear) _____

*Number in clear: 1-Air

2-GM

4-Free Rkt

5-Atomic Demolition Munition

**Use designated code

Classified CONFIDENTIAL when form is completed.

Inclosure 1 (Report Form) to
 Appendix 1 (Nuclear Control Instructions) to
 Annex C (Fire Support Control Procedures) to
 Standard Control Reference Data for Command Post Exercises

There are principles associated with the conduct of operations that do not change. These are:

1. Physical control facilities are arranged so as to enhance coordination within control staffs.
2. The control center should be separate from, but colocated with the division command post.
3. The control organization must be flexible to allow for changes to meet different operational conditions.
4. Operations associated functions should be combined and located in the same facility during conduct of the CPX.
5. Logistics type functions should be combined and located in the same facility during conduct of the CPX.
6. A control SOP enhances the conduct of control.
7. The use of player/controllers is to be avoided.
8. Controller forms such as messages and reports should be simple, easy to use, standardized and kept to a minimum.

CHAPTER VII

CONDUCT OF CONTROL-LOGISTICS

One of the major effects categories referred to in Chapter III was the area of logistics.¹ This area, comprising functions of the G1, G4 and G5 controllers is probably one of the most neglected areas in CPX play. Unfamiliarity with logistic procedures and emphasis on operational aspects of the exercise are the general reasons for this neglect. Comments by personnel with control experience and had units alike indicate that logistic play for CPX's was unrealistic and not correlated with tactical play.² Combat service support play was considered the third most prevalent cause of unrealism in a CPX.³ The following comments extracted from exercise after action reports and individual remarks point out the shortcomings of logistic play:

"Deficiencies - Need more controllers for divisions, particularly for G4 and technical service."⁴

"Conflict between logistics and operations was a problem area."⁵

¹CORG, CORG Memo CM-47, p. II-A-2.

²Andrew M. Rutherford, Command Post Exercise Control Questionnaire, (USACGSC, Fort Leavenworth, Kansas, 10 Jan 1964), p. 5, 9.

³Ibid., p. 16.

⁴First Army, Final Report, Exercise RAIN DROP (HQ 1st Army, Governors Island, N.Y. N.Y. 21 March 1954), p. 14.

⁵Carman D. Neggard, Comments on CPX Control, 82d Abn Div. (HQ 82d Abn Div., Fort Bragg, N.C., 27 Feb 1964), p. 14

"Proper exercise of combat service support elements should be stressed G1 and G4 can too easily overcome problems by use of paper solutions."⁶

"Logistic and administrative problems existing in subordinate commands were injected at corps level rather than at the level of the unit concerned...unit had no knowledge of problem. Damage to logistic installations.. resulting from atomic and conventional fires...was not realistic."⁷

"Problem time was not sufficient to achieve all exercise objectives principally administration and logistics."⁸

"Logistic play during the exercise was incomplete, attributable to the following:

1. Extent of play undetermined prior to the exercise.
2. Lack of pre exercise logistics play.
3. Non participation of units in certain aspects of logistic play."⁹

"Wherbereitskommando (WBK) did not participate. Therefore, refugee play was 'canned' and not realistic."¹⁰

"Umpire assessments of damages to personnel... was too low. It is feared that many persons may now regard atomic weapons as merely large artillery and not have proper regard for the tremendous destruction if such weapons are used."¹¹

The above remarks serve to emphasize the areas in logistic play that are glaringly deficient.

This chapter will deal with logistics in three parts; combat service support, personnel and civil affairs.

⁶CGSC Students, op. cit., p. 14.

⁷HQ 5th Corps, Final After Action Report, CPX APRIL SHOWER, p.6.

⁸HQ 25th Infantry Division, After Action Report, Exercise HANDA, Annex D, p. 1.

⁹HQ USACOMZEUR, op. cit., p. 4.

¹⁰HQ 3d Infantry Division, After Action Report, CPX CHECK MATE, p. 1.

¹¹HQ 18th Abn Corps, Final Report of the Aggressor, Exercise STAGE BRUSH, p. 1.

Section I

Combat Service Support

The areas of interest pertaining to combat service support include labor, maintenance, construction, hospitalization and evacuation, supply and transport. Most exercise activity concerns supply. This is particularly true in a CPX where such functions as maintenance and construction are given little play because of the time parameters involved.¹² When a supply requirement is made known to a player in many cases his only action is to initiate a requisition, feeling that the problem is solved. This spastic type play is detrimental to the realistic conduct of the exercise. Combat service support play must be sodesigned that the player is forced to take the whole gamut of actions open to him which are necessary to satisfy a requirement. The player must be exercised not only in supply matters, but in all of the areas of combat service support. Activities occurring in the various areas of combat service support impinge on each other. As an example, if a soldier is wounded he is evacuated and hospitalized. This requires transport. The consumed medical supplies must be replaced. Native labor may be used as stretcher bearers. If an ambulance is used it may need maintenance after the trip to the hospital over a road that requires new construction. If the above incident is increased by a hundred fold then the magnitude of activity at division level is approached. All kinds of "throw off" activity is generated by one initiating action. Most combat service support play causes a chain reaction as in the case of the wounded soldier. A large measure of combat service support play is generated by tactical play as in the above case.

¹²R.P. Howell, Comments on CPX Control, Seventh Corps (HQ 7th Corps, Moehringen, Germany, 14 Feb. 64), p. 9.

The ingredients of adequate logistical play exist in an exercise. It is up to the controller to properly plan his incidents so that proper training is imparted and pertinent exercise objectives attained. Amalgamated play will only come from the proper coordination of all of the areas of combat service support. The G4 and support command controller must work as a team to accomplish adequate play. One of the prerequisites to good combat service support play is a sizeable incident list which has been properly integrated with the scenario.¹³ The technical services including signal, ordnance, chemical, engineer, medical, transportation and quartermaster, usually represented by controllers at the support command, must insure that the play of concern to them is compatible with that of the rest of the exercise. This will have an effect at higher levels where the combat service support responsibilities hinge around the technical services rather than the support command and its functional elements.¹⁴

As suggested by remarks contained in after action reports, combat service support play suffers from the short duration of CPXs.¹⁵ Unfortunately, from a logistical standpoint, most CPXs are of short duration, lasting normally from three to five days.¹⁶ The majority of combat service support play usually requires more than five days to become a real problem to the player logistician. Two ways to circumvent this difficulty

¹³HQ 7th Army, Standard Control Reference Data (HQ 7th Army, Stuttgart, Germany, 17 Aug. 62), Annex B, para. 36.

¹⁴HQ 5th Army, Control Handbook, Exercise BIG BLAST XII & XIII (HQ 5th Army, Chicago, Ill., 30 Dec. 63), p. 59.

¹⁵Howell, op. cit., p. 9.

¹⁶HQ 82d Abn. Div., Exercise Control Plan, CPX TUNE UP (HQ 82d Abn. Div., Ft. Bragg, N.C., 22 Jan. 64), p. 1.

are starting combat service support play prior to the start of the tactical portion of the exercise and design the combat service support problem play so as to take the short length of the CPX into account.

Rear Area Security and Area Damage Control

Rear area security and area damage control play is handled by the G4 and support command controller. Rear area security has two facets, one concerning tactical operations and the other the disruption of combat service support activities. The rear area tactical play must be coordinated closely with the G2 and the G3. Combat service support capabilities must reflect the effects of aggressor action against the rear area. If guerrillas destroy a major share of a division's supply of Class II, tactical operations must reflect this dilemma and more POL must be obtained (not just requisitioned).

The controller, in dealing with actions that take place in the rear area, also has recourse to war gaming tables. An extract from a table dealing with sabotage is shown below:¹⁷

Table 9

Type of Incident	Time out of Service(hours)	Probability of Success %
1. Ambush rail train	5	60
2. Pull up rails	2	75
3. Cut telephone or telegraph wires	1	80
4. Blow up large railroad bridge		10
5. Cut POL pipeline		30
6. Large scale damage to military equipment		5

¹⁷D.K. Clark, War Game Manual for Umpires and Evaluators (John Hopkins University, Chevy Chase, Maryland, Oct 57), p. 89.

Area damage control, while a G4 control responsibility, will more than likely be executed by support command control. Area damage control play should be controlled conservatively. If too much of the combat service support capability is eliminated, this may adversely affect the play of the exercise as a whole. Good judgement must prevail especially under conditions of nuclear play where there are mass casualties and destruction. Players must be forced to take the necessary measures following nuclear strikes. Some control groups prescribe the length of time various activities will be affected by a nuclear blast. Seventh Army's Standard Control Reference Data states, that if a unit is struck by atomics it may re-enter play at a different location after reconstitution eight hours after the burst.¹⁸ This means that measures have to be taken by players to reconstitute the activities affected. Communications between players of affected units should also be considered disrupted as a result of a nuclear burst. Area Damage Control play is coordinated closely with the chief controller so that he can assure the requisite amount and nature of play in this sector. It may be that several nuclear strikes would eradicate the combat service support capability of the division and seriously compromise the conduct of the CPX. Whether this is to be allowed has to be weighed against the division's ability to accomplish the objectives of the exercise.

Role of the G4

The G4 controller, with his assigned assistants, and in coordination with the support command controller, controls the combat service support play of the CPX. It is important that logistic controllers be familiar

¹⁸HQ 7th Army, Standard Control Reference Data, P. 3.

with the basic tools of logistics such as:

1. Unit TOEs.
2. Pertinent field manuals and other publications concerning units they control.
3. ROAD logistic procedures.
4. Field SOP and player exercise publications.¹⁹

Probably the two most significant G4 areas of emphasis are the early planning, in detail, for combat service support play and the close monitoring of such play during the exercise. A corollary to the close monitoring of play is the quick action and reaction required by G4 controllers to both tactical and combat service support play.

Section II

Personnel

The general objectives of personnel play concern the following:

1. Ability of commanders to maintain the fighting strength of assigned forces.
2. Adequacy of SOPs.
3. Capability of the Division G1 to cope with unforeseen personnel and administrative emergencies.
4. G1 capability of providing current and projected strength status reports as required for planning.²⁰

The first objective mentioned above is the most important to the command and should receive heavy emphasis by the control group. Personnel play, like combat service support play, tends to lag. To compensate for this lag,

¹⁹HQ 3d Inf. Div., Control Directive, CPX LITTLE ROCK (HQ 3d Inf. Div., APO 36, N.Y., N.Y., 3 Jan. 64), Annex H, p. 1.

²⁰HQ 7th Army, Standard Control Reference Data, Annex D, para. 3.

the controller should require the player to carry out the entire spectrum of activity that normally occurs in the division G1 area of responsibility. For example, situations could be presented to force the division G1 to obtain replacements other than by the normal means. To require the division G1 merely to requisition replacements and take no further action does not fully exercise the function of obtaining replacements under all circumstances. Ordinarily, replacement play, like combat service support play, suffers from the short time span of the CPX. This can be remedied in the same manner as for combat service support play by initiating personnel problems during the pre exercise play. Personnel strength bears a close relationship to the fighting capability of the division. Player actions should take cognizance of the interaction between unit strength and capability. This relationship becomes highly significant if the CPX includes nuclear play. Mass casualties resulting from a nuclear strike have an even greater effect upon the unit than the same number of casualties sustained over a longer period of time. Figure 37 shows the relationship between casualties and the unit break point and capability of performing its mission. This type of graph is used as a tool by personnel controllers to determine the effects of casualties on unit capabilities.

Certain special staff functions are supervised by the G1 for most aspects of their play. These special staff functions include:

Provost Marshall	Adjutant General
Staff Judge Advocate	Finance
Information	Chaplain ²¹

The G1 supervises only those aspects of exercise play normally

²¹Rutherford, Op. cit., p. 5.

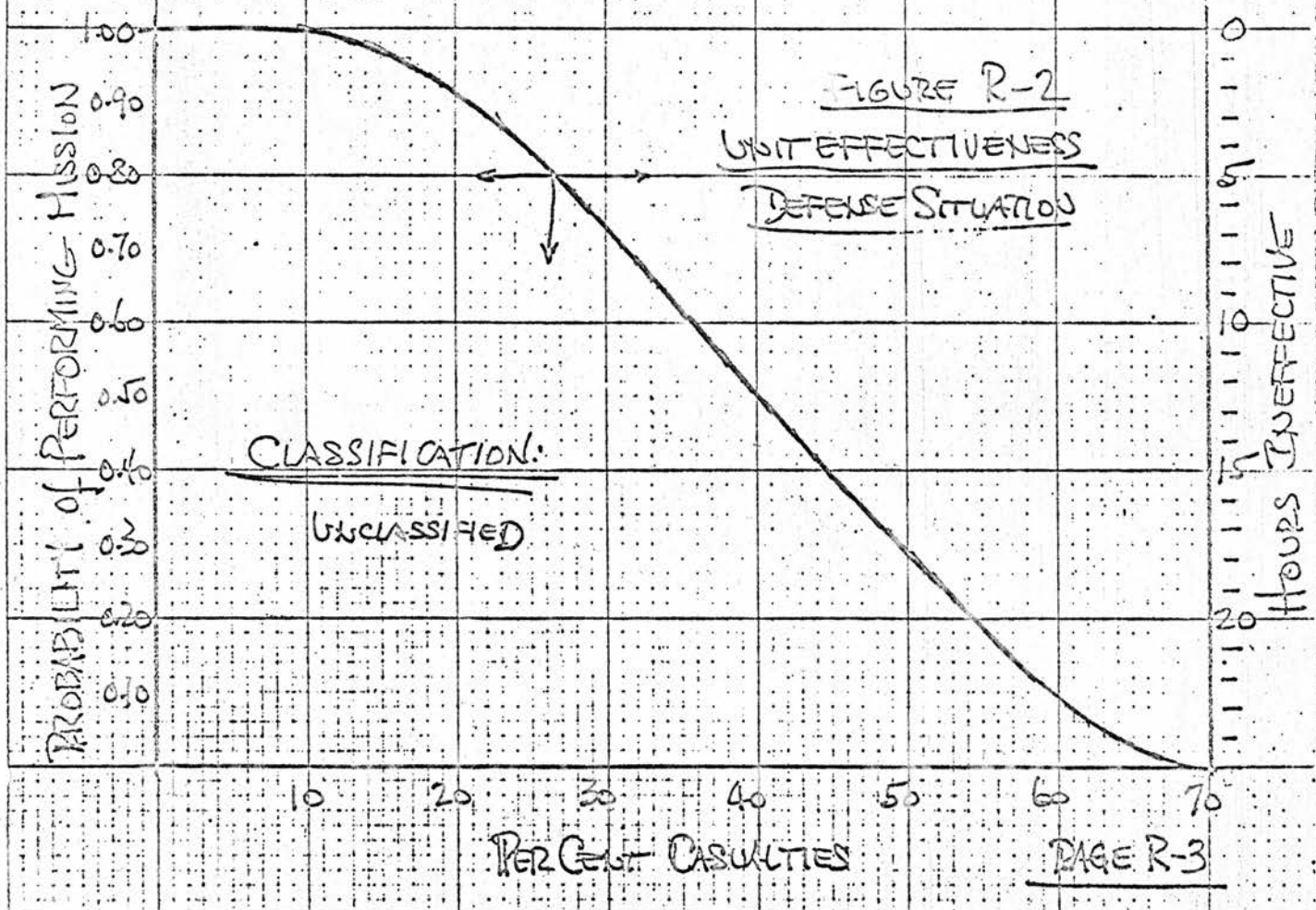
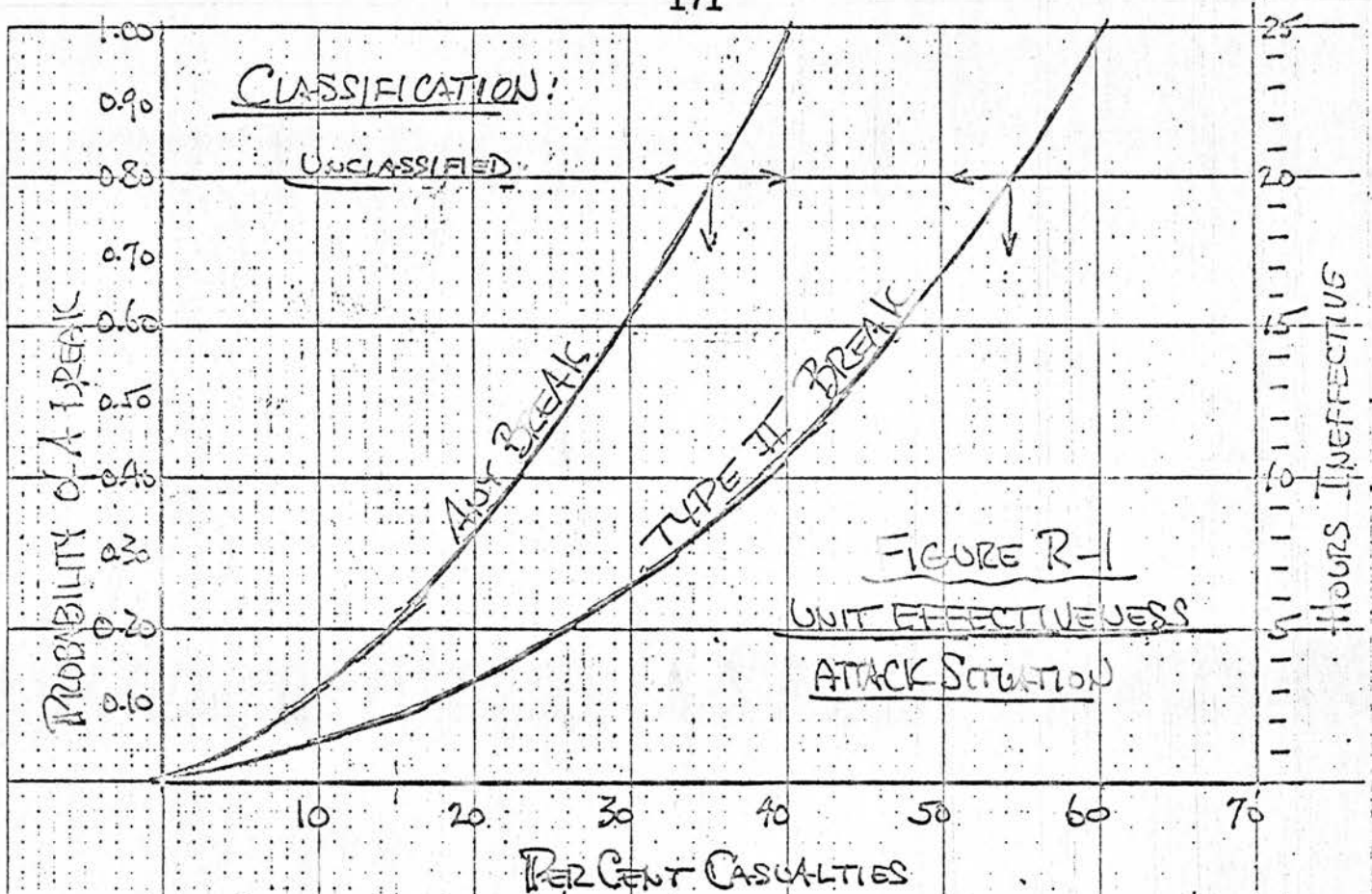


Figure 37

carried out by the special staff that come within his area of responsibility. The above special staff sections are not usually represented on the control group except for the provost marshal. The provost marshal is represented because of the large amount of military police play in a CPX. In the G1 field this involves the various tasks connected with discipline, law and order and guarding POW.

Personnel play other than that concerned with losses and replacements is maintained by a well diversified incident list designed to exercise the unit G1 in all facets of his staff responsibility.²² In order to insure a uniform pace of play, higher headquarters usually dictates a minimum quota of message injections per day.²³ Controllers are required to furnish the bulk of information to serve as a basis for player personnel actions if this part of the play is to succeed.²⁴

Role of the G1

The G1 is in a similiar position to that of the G4 in that he has a wide range of functions, some of which involve special staff areas of concern. He deals with the support command controller in matters concerning the Administrative Company and other speres of G1 interest that affect the support command. The main role of the G1 is the assessment and tabulation of losses and associated statistics. He must know strengths of the division intimately since it is his job to exercise the division

²²Ibid., p. 2.

²³HQ 7th Army, Control Directive, CPX FLASH BACK (HQ 7th Army, Stuttgart Germany, 7 Aug. 60), Appendix 4 to Annex N.

²⁴HQ 7th Army, Standard Control Reference Data, Annex G, p. 1.

G1 in the important staff activity relating to the maintenance of the fighting strength. The G1 controller may conduct civil affairs control if a separate civil affairs staff section is not designated.

Section III

Civil Affairs

Civil affairs embraces those activities dealing with the civil - military relationship in the area of operations.²⁵ Civil affairs activities normally are limited to a few major fields or problem areas in order to fully exploit those fields.²⁶ Some suggested areas of play are:

Refugee control	Legal
Public safety	Displaced persons
Public health	Labor
Rubble clearance	Public welfare
Public works and utilities	Civilian supply
Procurement of local resources	Counter insurgency actions ²⁷

All of the above areas of concern should not necessarily be played to the extent that they might occur in an actual situation. One or two areas should be emphasized and the rest played only briefly.

Civil affairs is not recognized by many persons as being particularly related to operations. Consequently, civil affairs play during a CPX is not emphasized. This results in a lack of play and unrealism. Below are listed some comments by units concerning refugee play during CPXs:

²⁵HQ Dept. of the Army, FM 41-10, Civil Affairs Operations (HQ DA, Washington 25, D.C., 14 May 62), p. 3.

²⁶HQ 7th Army, Standard Control Reference Data, Annex I, p. 2.

²⁷Ibid., Annex I, p. 3,4.

"Refugee play unrealistic."²⁸

"Refugee play reported only in general terms...Did not produce delays in movement they should have...Standard time-distance factors for refugee control must be devised."²⁹

"...refugee play was 'canned'."³⁰

Refugee play is the most stressed part of civil affairs play because of its recognizable effect on tactical operations. The reason for poor refugee play in CPXs is that the play does not affect the tactical play as it should. This is due to two faults - lack of realistic presentation of the refugee effect upon movement and players ignoring the presence of refugees in so far as any hinderance to unit movement is concerned. The control of refugee play is not a simple matter. Detailed planning and coordination is required prior to any exercise. Pre exercise tasks relative to refugee play include the following:

"Obtain from corps or army civil affairs officer, a map, or overlay depicting refugee routes, collecting areas, relocation areas, evacuation areas, military axial routes, alternate routes and refugee control lines. Map templates, to scale, should be made to depict refugee movement, mode of travel and routes affected, in order to present player with the density at any time and place."³¹

The establishing of a realistic basis of play is only half the job.

The controller must implant civil affairs play in the exercise and insure its effect upon tactical operations. Command emphasis may be required for adequate play.

In an effort to exercise logistical play, logistic oriented CPXs are held in which the focus of play is on logistical play, tactical operations

²⁸HQ 7th Army, After Action Report, Exercise GRAND SLAM I (HQ 7th Army, Stuttgart, Germany, 15 May 62), p. 3.

²⁹HQ 7th Corps, Final Report, CPX GRAND SLAM I (HQ 7th Corps, Moehringen, Germany, 30 April 62), Inclosure 2, p. 1.

³⁰HQ 3d Inf. Div., After Action Report, CPX CHECK MATE, p. 1.

³¹HQ 7th Corps, Guide for Controller (HQ 7th Corps, Moehringen, Ger., June 63), Appendix 2 to Annex E, p. 2.

being incidental.³² CPX BOUNCE BACK was such an exercise. Rear area security and area damage control play were the main objects of play in the exercise.³³ Civil affairs control objectives for the CPX were:

1. Civil affairs policy for operations when national government maintains civil control.
2. Rear area damage control situations.
3. To determine proper time to advise commanders when to assume control of available national territorial facilities and resources in rear area damage control operations.
4. Refugee effects on rear area damage control operations.³⁴

Limited numbers of exercise objectives, as in CPX BOUNCE BACK, facilitate preparation and conduct of civil affairs control.

Counter Insurgency

The G1, G4, support command commander and the civil affairs controller are intimately concerned with counter insurgency play. The civil affairs controller has a major role in control of counter insurgency type situations. This role is increased if the exercise is a conventional land battle type CPX. In this case, the national civil power will likely carry out the majority of the counter insurgency tasks.³⁵ Such tasks include:

1. Establishment of an effective intelligence system.

³²HQ 7th Army, Final Report on FTX AIRMED ALFA (HQ 7th Army, Stuttgart, Germany, 13 Dec. 57), p. 1.

³³HQ 7th Army, Control Directive, CPX BOUNCE BACK (HQ 7th Army, Stuttgart, Germany, 19 Nov. 58), p. 1.

³⁴Ibid., Annex F.

³⁵HQ Dept. of the Army, FM 31-15, Operations Against Irregular Forces (HQ DA, Washington 25, D.C., 31 May 61), p. 4.

2. Separation of guerrilla elements from source of support.
3. Destruction of irregular force elements.
4. Prevent resurgence of movement.³⁶

These tasks provide the controller with plenty of possibilities for highly active play. In exercises which are oriented towards counter insurgency and the insurgent force is the main enemy element, the G2 and G3 controllers control the military-operational aspects of play. Exercise KOREA 61-I, a Special Forces/Korean combined exercise,³⁷ and Exercise DALLAS III, a combined U.S./Thailand exercise,³⁸ are examples of counter insurgency oriented exercises. Even if the insurgent forces are played by the G2, the logistics controllers, and specifically the civil affairs controller, have a large share of the play. In CPXs where the situation emphasizes counter insurgency, it is imperative that the civil affairs facets of control be coordinated closely and continuously with tactical operations.

Section IV

Summary

Logistics play is the most neglected part of a CPX. If proper development of logistic play is to be achieved it must be preceded by detailed planning and preparation. The concept for logistics play is important to the accomplishment of logistics exercise objectives. Logistics controllers must plan many incidents to keep logistical play moving at a satisfactory pace. They must extend an initial incident to

³⁶Ibid.

³⁷HQ U.S. Forces Korea, After Action Report, Exercise KOREA 61-I (HQ U.S. Forces, Korea, Seoul, Korea, Oct 61), p. 1.

³⁸Joint U.S. MAG to Thailand, Plan and After Action Report, Exercise DALLAS III (HQ Joint US MAG to Thailand, 10 Jan. 62), p. 1.

cause the player to take several actions to solve a problem. In order to be realistic, logistic play must reflect the tactical play. G1, G4 and G5 activities are not only responsive to tactical operations they are interrelated with each other and must be coordinated. The deputy chief controller must actively and closely supervise logistic planning and execution of control in order to assure the necessary standards of staff work.

Procedures for the conduct of the logistical part of control for an exercise are similiar to those discussed for operations. Some principles affecting logistic play are:

1. Logistic play must be emphasized.
2. Technically qualified controllers are required for the conduct of logistical control.
3. The concept of logistic play must insure the full range of logistic play during the time limits of the exercise.
4. Logistic control planning is detailed to insure play of all desired logistic areas of concern.
5. Logistic play is designed and executed so that the proper interaction occurs between tactical and logistical operations.
6. Civil affairs play is limited to a few major areas.
7. The personnel controller has overall responsibility for casualty assessments.
8. The G4 controller has over all responsibility for damage assessment.

CHAPTER VIII

CONCLUSIONS AND RECOMMENDATIONS

There were several major aspects of CPX control that were analyzed within this paper. These major areas of concern included control organization, control systems, methods and procedures, exercise preparation and conduct of control. Other areas of interest were coordination, liaison, communications, forms and reports, control personnel requirements, controller-player relations and exercise realism. Through study of the above facets of CPX control, principles were identified and procedures outlined whose application will maximize the benefits obtained from the conduct of a CPX. Certain specific conclusions about CPX control can be drawn as a result of this analysis. These conclusions have a bearing on principles and procedures and will be discussed first.

Section I

Conclusions

1. Organization of control groups is often makeshift. Most control groups are required to develop an organization for each exercise.¹ Control organization is usually determined only after selection of the key members of the control staff. Control group organizations tend to be faulty when established anew for each CPX. A permanent staff structure which adopts

¹HQ 3d Army, Control Handbook for CPXs (HQ 3d Army, Fort McPherson, Georgia, 18 January 1960), p. 1.

the improvements determined by experience from each exercise is eminately more suitable than a staff organized merely for one exercise.

2. Many personnel assigned to control duty lack requiaite experience. This shortcoming is reinforced at the lower levels.²

3. There is no standard system, now in use, for the conduct of control. Throughout this analysis the fact appeared again and again concerning the lack of continuity and standardization in any facet of CPX control.³ Major units such as Third, Fourth and Seventh armies recognized this need for standardization and published standard control SOPs.

4. Command post exercises are unrealistic especially with regard to logistic play. One of the common CPX problem areas reported by units is the lack of exercise realism. Poor logistic play was considered one of the major contributing factors.⁴

5. There is an inability on the part of control groups to correlate logistic and tactical exercise play. This major problem is due to several deficiencies, including lack of emphasis on logistic play, unknowledgeable logistic personnel, inadequate preparation and lack of coordination between controllers. These deficiencies when added together insure lack of correlation between the various parts of CPX play.⁵

6. There is a lack of command emphasis on the control aspects of a command post exercise. Most control groups received the type of personnel who could be spared from their respective units. The chronic shortage of

²Andrew M. Rutherford, Command Post Exercise Control - Questionnaire (USACGSC, Fort Leavenworth, Kansas, 10 Jan., 1964), p. 3.

³Ibid., p. 3, 4, 8, 11, 15, 17-23. ⁴Ibid., p. 16.

⁵Robert P. Howell, Comments on CPX Control, Seventh Corps (HQ 7th Corps, APO 107, N.Y., N.Y., 14 Feb., 1964), p. 9.

controllers for division control groups and lack of other type support are other indications of the lack of emphasis on control by the commander.⁶

7. There is more than one satisfactory organization, system and type methods of CPX control. All types of organizations are used by various control groups. These included the general staff, double deputy and the directorate types of staff structure. Units indicated that the control organization they used was satisfactory.⁷ This indicates that there are several means of organizing to adequately carry out the control mission. Different types of control systems are used. These usually differed based on the type CPX and the exercise objectives. All of the control systems employed, however, did not obtain optimum results.⁸

8. Controller training is generally too short and does not cover the requisite subject matter. Many control personnel lacked experience, yet many control schools were of very short duration if they were held at all.⁹ If one week is used as the standard for the proper length of time for a control school, very few control groups at present meet that criterion in the conduct of their control training.

9. The various control tasks and methods to execute them are not standardized in any Department of the Army publication. FM 105-5 and FM 21-5 are the only Department of the Army publications which give information about a command post exercise. FM 105-5 (draft) devotes a chapter to command post exercises including their control, however, it is too

⁶HQ 1st Army, Final Report, Exercise RAIN DROP (HQ 1st Army, Governors Island, N.Y., N.Y., 21 May 1954), p. 4, 31.

⁷Rutherford, op. cit., p. 5, 9.

⁸HQ 7th Corps, Final Report, CPX GRAND SLAM I (HQ 7th Corps, APO 107, N.Y., N.Y., 30 April 1962), p. 2, 5, 9, Incl. 1, p. 5, Incl. 2, p. 1.

⁹HQ 8th Army, Training Memorandum Number 12, CPX (HQ 8th Army, Souel, Korea, 2 October 1953)

general and incomplete.¹⁰ A division cannot use it as a guide due to its lack of detail.

10. Procedures for the conduct of control for joint or combined CPXs are not delineated in any publication. After action reports for joint or combined exercises remarked on the lack of common procedures.¹¹ After a joint Army, Navy, Air Force CPX (Exercise SHORE LINE), General Ryan, the exercise director, stated that there is a need for integrated control doctrine, policies and procedures among the three services.¹²

Section II

Control Principles

There were many control principles identified by this study. This large list can be reduced so that less specific, more generally applicable principles are set forth. As is the case with the ninety six identified principles of organization, only five of which are used by USACGSC for instruction, only the salient principles derived from this analysis will be enumerated and discussed.¹³ It was discovered that many of these important principles had wide applicability, not being restricted to a particular consideration of control. Others, in particular those pertaining to control organization, are more limited in scope.

1. Planning. Planning is initiated prior to the formation of the

¹⁰HQ Maneuver Director, Final Report, Exercise LONG HORN (HQ Maneuver Director, Fort Sam Houston, Texas, 18 June 1952), p. 29.

¹¹HQ JTF Clear Lake, Final Report, Exercise CLEAR LAKE (HQ JTF Clear Lake, Eglin AFB, Florida, 8 June 1962), Annex D, p. 3.

¹²HQ JTF Shore Line, Exercise Directive & Final Report, Exercise SHORE LINE (HQ JTF Shore Line, Location unstated, 2 November 1962)

¹³USACGSC, Subject A1010, Commander and His Staff - Principles of Organization and the Commander's Management Functions (USACGSC, Fort Leavenworth, Kansas, September 1963), p. Ll-9.

control group for a particular exercise. At this time the exercise preparation is planned. During preparation, planning for the conduct of the exercise is carried on. Logistic control planning is quite detailed. Proper advanced planning is essential to the preparation and conduct of a command post exercise.

2. Standing Operating Procedures. The means by which the control group accomplishes its mission should be standardized as much as possible, at as high a level as possible, in order to afford continuity and assure uniform procedures.

3. Permanent Staff Nucleus. A permanent control staff nucleus is desirable to promote efficiency, save manpower and time and enhance continuity.

4. Full Range of Play. The concept of control should insure the full range of play in all desired areas. This is particularly applicable to the control of logistics play which may have to be initiated before tactical play starts.

5. Interaction. There should be proper interaction between tactical and logistical play. One of the prime deficiencies of CPXs is the lack of correlation between tactical and logistic play. The affect of one upon the other is assured through proper planning, preparation and coordination.

6. Simplicity. A simple organization, control system, methods and procedures enable exercise control to be handled adequately with less need for elaborate exercise preparation or training for control personnel. The number of methods and procedures should be held to a minimum.

7. Centralized responsibility for loss assessment. The data for loss assessments, both casualty and damage, comes from many sources. The compilation of statistics and tabulation of loss information should be handled by a single section.

8. Control system determined by CPX. The form and objectives of the CPX determines the control system that is the optimum for use. A CPX where plans are to be tested requires a control system that simulates battle field conditions as closely as possible. A CPX designed principally to train the staff requires a control system that will insure that various actions occur for training purposes and hence is more rigid.

9. Qualified Personnel. Experienced, technically knowledgeable personnel are required for key control positions. Training is the best means for making certain that control personnel, once acquired, meet minimum standards.

10. Aggressor forces are the responsibility of the intelligence controller. The G2 knows intimately the aggressor organization, doctrine, tactics and methods of operation. He is the most qualified person within the control group to handle the aggressor forces. This responsibility should not be fragmented. Even if the operations controller assists in the writing of orders or in developing schemes of maneuver, the over all responsibility for aggressor force actions should rest with the intelligence controller.

11. Emphasize weak areas of control. Where play is weak it must be emphasized in order to bring it in line with the rest of the CPX play. This applies particularly to logistics.

Certain principles pertained particularly to control organization, however, they are important because of the effect of organization on the over all aspect of control.

1. Represents division functions. The control organization must be structured so that it is able to exercise all functions carried out by the division staff. A staff organization similar to that of the division staff is the optimum method of structuring the control staff.

2. Capability of echelonment. The control staff must be able to

divide into as many separate groups as necessary to adequately control the CPX. This usually involves placing the controller near his player counter part. There must be sufficient depth in personnel to make certain that the required number of staff echelons can be supported.

3. Self sufficient. The control group operates independently in most cases and should be able to support itself. This involves an administrative section that is organic to the control staff capable of carrying out the support task in its entirety.

4. Coordination. Coordination is all important to the accomplishment of proper planning, preparation and conduct of control. Coordination is enhanced by proper organization of the staff.

5. Austere. The staff structure itself should be simple, containing the minimum number of sections and branches. Special staff representation is held to a minimum.

Section III

Control Procedures

It is not feasible to list all of the pertinent procedures involved in CPX control. The more important procedures that were developed from the analysis are listed under a particular part of the control function that they specifically pertain to, such as exercise preparation.

Organization

1. Use of a phased organization for the various phases of the exercise. This reduces confusion and saves on man power.

2. General staff organization for the control group. This type staff is better known and understood by most personnel and is the same type as the division staff.

3. Delegation of maximum authority to sections and subordinate control groups. This gives greater effectiveness to the control effort by fostering initiative and enthusiasm.

Personnel

1. Set adequate acceptance standards for controllers. These standards have to be realistic and at the same time serve to cull out undesirables. Written criteria should be given to the division G1 in order to fix minimum qualifications. The chief controller and the section chiefs should interview prospective controllers prior to acceptance.

2. Obtain adequate personnel to be able to properly man the control structure. This includes the necessary personnel for shifts in the field control center and for the various staff echelons as required.

3. Seek personnel with prior control experience or experience in a similar player capacity at division level.

4. Rank of controllers should be commensurate with their counterparts.

Exercise Preparation

1. Use a planning schedule. This helps in the orderly progression of preparation.

2. Develop an integrated incident list and write a sufficient number of messages. The incident list will serve to coordinate the action to be played and its timing. Messages should be written with certain data such as time and location left blank to allow for flexibility in injection.

3. Set up a formal control school for all controllers from the division. The section chiefs can teach the specialized control subjects germane to their area of interest to those concerned.

4. Test the control plan by means of a pre exercise war game. The war game produces coordination, identifies problem areas, helps align the scenario and incidents and is an excellent training vehicle.

5. A rehearsal, using control communications, conducted just before the CPX begins serves to point up any previously undetected difficulties and affords applicatory training in the procedures to be used in the conduct of control.

6. Establish the control communications system prior to the exercise. This entails planning for and obtaining the necessary personnel and equipment and laying in the wire and such other portions of the system as is necessary. The system is tested prior to its employment.

Control Methodology

1. Allocate aggressor forces to subordinate controllers on an area rather than a unit basis. Give each subordinate control group an area based on the aggressor boundaries.

2. Use war gaming methods where possible to increase realism. Keep methods and procedures to a minimum. Keep them short and uncomplicated.

3. Use standardized reports and forms.

4. Constantly monitor player actions. Act to keep play progressing. Take cognizance of player reactions and see that these actions have an effect on the situation. Conduct liaison frequently. Section chiefs should visit opposite members on the division staff at least twice a day.

5. Disseminate information up, down and laterally. Keep the player informed according to the exercise situation.

6. In areas where there is a lag in play due to player impence, inject wituations such that the player is forced to act. Sluggish play in such areas can be precluded by planning sufficient situations to keep play

proceeding at a satisfactory rate.

7. Standardize procedures in the control group SOP so that all controllers may learn them and not have to improvise.

8. Develop harmonious working relations with players on the division staff. Go out of the way to be helpful and fair. Do not, on the other hand, give information to the player that is not warranted merely to make it easy on him.

Logistics

1. Correlate logistic with tactical play during planning, preparation, the pre exercise war game and the conduct of the CPX.

2. Use adequate message play to insure play in the normal variety of logistic areas.

3. Limit civil affairs play to a few major areas of emphasis. This affords adequate play in these areas and avoids fragmentation of play over too wide an area.

4. Start logistic play prior to initiation of the CPX. Messages may be injected as part of the pre exercise play.

5. Obtain and utilize necessary logistic reference material such as field manuals, standard operating procedures and other pertinent reference documents.

6. Coordinate preparation and conduct of play closely with the support command controller who will actively conduct most of the combat service support play.

Two procedures that apply universally to the conduct of CPX control are the use of standing operating procedures and coordination.

Section IV

Recommendations

1. A manual for the conduct of command post exercises be published by Department of the Army or Department of Defense which delineates:

- a) Common procedures to be used.
- b) Standard control organization for various levels.
- c) Standard forms and formats.
- d) Defines control staff positions and delineates areas of responsibility.

This manual should be designed so that it can be used for joint and combined exercises and by control groups from battalion through division (and perhaps higher) level.

2. Control methodology, principles of control and related subject material be taught at army service schools.

3. Illuminate the subject of CPX control in professional publications.

4. Closer supervision of control group activities by the commander.

The control of a command post exercise is a major undertaking, involving a great number and variety of tasks. The optimum benefit is not now generally derived from the conduct of command post exercises. This is largely due to faults in the control of an exercise. If optimum command post control methods and procedures are used, the CPX can be improved.

APPENDIX A

TERMS AND DEFINITIONS

There is a specific vocabulary associated with exercises. This vocabulary includes words that take on different meanings when used in the context of a command post exercise. In order that terms which are frequently used in connection with exercises are understood in their proper context appropriate words and terms are defined and discussed in this appendix.

Types of exercises will be defined first. There are many types of training exercises and it is easy to confuse the form, conduct and purpose of each type.

TERRAIN MODEL EXERCISE - "Tactical exercise in which a sand table or some other terrain model is substituted for the terrain. Friendly and enemy troops are represented by suitable miniatures...."¹

TACTICAL DRILL EXERCISE - "Exercise conducted 'by the numbers.' It is a form of small unit training in which the fundamentals of tactics are stressed by progressive repetition."²

TERRAIN EXERCISE - "Tactical exercise in which the disposition and movement of simulated troops are planned and discussed on a particular piece of ground."³

MAP EXERCISE - "Tactical exercise in which a series of related situations requiring individual or group solutions are stated. A map is the only guide to the terrain."⁴ It is a one-sided exercise.

¹DA, FM 105-5 (DRAFT) Maneuver Control (USACGSC, Fort Leavenworth, Kansas, Oct., 1963), p. 5.

²Ibid.

³Ibid.

⁴Ibid., p. 6.

MAP MANEUVER - "Exercise in which military operations with opposing sides are conducted on a map, the troops and the military establishments being represented by markers or symbols which are moved to represent the maneuvering of the troops on the ground."⁵ A good example of a map maneuver is

the CGSC Problem M6491, Map Maneuver, Mechanized Division, Meeting Engagement. In the problem two forces of equal size (divisions) oppose each other.⁶

FIELD EXERCISE - "An exercise conducted in the field under simulated war conditions in which troops and armament of one side are actually present, while those of the other side may be imaginary or in outline."⁷ A good

example of such an exercise on large scale is Exercise Marne Rock where the force being exercised, the 3d Infantry Division, was opposed by elements of the 2d Armored Cavalry Regiment representing a force of several divisions.⁸ The primary purpose of the field exercise is to train and test the leader and his unit.

Whether on the map or on the ground an exercise is thought of as one sided and a maneuver as two sided. Both Webster's Dictionary and AR320-5 (Dictionary of U.S. Army Terms) bear this out.

FIELD MANEUVER - Tactical field training in which a military operation is conducted; troops and armament of both sides are present.... "The maneuver is extensive in scope and time, with logistical depth often extending beyond the army rear boundary.... It involves multi-phase tactical problems in which more than one division normally participates and requires extensive movement in relatively large areas."⁹

⁵Dictionary of U.S. Army Terms, op. cit., p. 226.

⁶USACGSC (DDO), Mechanized Division, Meeting Engagement, Map Maneuver M6491 (USACGSC, Fort Leavenworth, Kansas, 1963), LP, p. 5.

⁷Dictionary of U.S. Army Terms, op. cit., p. 160.

⁸HQ 7th Corps, Exercise Directive, Exercise MARNE ROCK (HQ 7th Corps, Moerhingen, Germany, Oct., 1962), Annex B, p. 2.

⁹Dictionary of U.S. Army Terms, op. cit., p. 49.

COMMAND POST EXERCISE - An exercise involving commanders, staff, headquarters, communications and Control personnel. The exercise may be one sided or two sided with controllers representing troops, activities and facilities that are simulated. The purpose of the command post exercise is to train commanders and staff in correct methods and procedures; rehearse for field exercises and maneuvers, test plans, concepts and developments.

WAR GAMING - "An operations research technique whereby the various courses of action involved in a problem are subjected to analysis under prescribed rules of play representing actual conditions and employing planning factors which are as realistic as possible."¹⁰ When the word is changed from war gaming to war games, then a different connotation is implied. A U.S. Army War College Memorandum states the following:

".... you find that any of the following is a war game:

Sand Table Exercise
Terrain Exercise
Command Post Exercise
Field Exercise
Map Maneuver
Field Maneuver

and any of these could be:

A Minor, Major, or Grand Joint Exercise. In addition, a rehearsal is certainly a war game."¹¹ In effect then a war game is a means of testing performance or a plan whether in its simplest form as a course of action (as indicated by the CGSC text on Estimate of the Situation - Problem M1101 Appendix 3 to Advance Sheet, War Gaming) or a full blown plan of campaign. Further, the form of the war game is not fixed. Probably all exercises have an element of war gaming in them and certainly all are, in the broadest sense, war games.

In addition to the types of exercises there are a variety of miscel-

¹⁰ Dictionary of U.S. Army Terms, op. cit., p. 420.

¹¹ USAWC, Use of War Games in Testing Plans (USAWC, Carlisle Barracks, Pennsylvania, 2 June, 1953), p. 1, 2.

laneous terms applying to control positions, activities, and publications. These are not grouped in any particular order due to their diversity.

CONTROL - The establishment which guides the exercise. It consists of the headquarters at various levels, personnel, communications and equipment necessary to carry out its tasks. It has a separate chain of command from that of the organization being exercised, reporting ultimately to the Exercise Director. It also "is the process of regulating, directing and guiding the exercise so that its conduct is kept within prescribed limits and the exercise objectives are accomplished."¹²

CONTROLLER - Member of a control group. Represents simulated enemy or friendly units, activities or facilities. Acts to govern progress of exercise within responsibilities and also may serve as an evaluator.

UMPIRE - Renders judgement on outcome of various actions of unit he is umpiring whether it be assessment of casualties, rate of advance or effect of a nuclear weapon strike. "The umpire must decide what has happened, portray the situation for the players and cause the exercise to develop in consonance with exercise objectives."¹³

The difference between the Controller and the Umpire is that the umpire judges effects of actions of actual units, whereas the controller represents simulated activities to the player. Both, of course, exert control in that they govern player actions such as how fast a unit may execute an action. Umpires and controllers may be present in the same exercise, but the umpire represents a live unit -- the unit that he is umpiring. The controller is with a live unit but represents simulated friendly and enemy forces, not the actual unit that he is controlling.

¹²FM 105-5 (Draft), op. cit., p. 67.

¹³Ibid., p. 67.

PLAYER - Member of a unit being exercised.

AGGRESSOR - (enemy) Real or simulated force opposing the player force.

EVALUATION - "The function of determining the quality of performance of individuals, units, staffs, equipment and weapon systems and the adequacy of concepts, procedures and techniques applied in the exercise."¹⁴

MESSAGE - Any type of communication sent or received during a CPX. There are various types.

Control Message - A message sent by a control group either to another control group or to a player.

Preplanned Message - A message that was prepared either in whole or in part prior to the start of the exercise.

Player Message - Message generated by player personnel.

INCIDENT - A planned happening created by control as part of the play of the exercise. Usually generated by a message injected by Control.

INCIDENT LIST - An amalgamation of incidents to be fabricated by Control. The incidents are listed in chronological order and may consist of a staff section incident list or be integrated into Control Group incident lists of the entire exercise control organization from battalion on up.

INJECTION - The act of initiating a control message into the exercise. Usually referred to as "message injection."

COMBAT EFFECTIVENESS - The current capability of a unit to fight expressed as a percentage -- 10% being every unit's combat effectiveness at 100% TOE strength. Combat effectiveness is determined by comparison of present strength in personnel and equipment with that at 100%. The combat effectiveness of a unit is not a straight line derivation of the personnel

¹⁴
Ibid., p. 67.

strength. Whereas most divisions are considered quite effective at 90% strength, at 70% personnel strength the combat effectiveness approaches zero.¹⁵ Unit combat effectiveness is also a function of the rapidity with which casualties were accepted. For command post exercise purposes, the number of variables used to compute combat effectiveness is held to a minimum unless electronic computers are used.

FORCE INDEX - A statement of a given unit's combat power measured against a standard expressed as a number. For instance, say the norm is selected as ten for a U.S. Infantry Division. Perhaps an Infantry Battalion would be one, an aggressor regiment 2.5 and so forth. This gives the controller a means of comparing opposing forces during a given encounter. The force index is stated for 100% TOE. The current force index is obtained by multiplying the force index times the unit combat effectiveness.

SCENARIO - The scenario is, in effect, the story of the exercise. It portrays a series of continuous situations (developed by the aggressor force actions) that will provide the training required by the commander's directive. The scenario guides control personnel so that they may cause the exercise to develop according to plan.¹⁶

DIRECTIVE - A written communication in which a policy is established or a specific action is ordered. There are two types of directives published for a CPX, an exercise directive for players and controllers and a control directive for controllers only.

Exercise Directive - Requires development of the exercise and contains as a minimum the following items:

- (1) Purpose

¹⁵USCONARC, War Gaming Handbook (HQ USCONARC, Fort Monroe, Virginia, Sept. 1961), p. 28 - 9, 10, 11.

¹⁶FM 105-5 (Draft), op. cit., p. 16.

- (2) Type of training
- (3) Time and place
- (4) Units to participate
- (5) Special equipment¹⁷

Control Directive - Gives specific instructions not covered in the control SOP to controllers. The control directive will contain such items as:

- (1) Purpose
- (2) Responsibilities
- (3) Control concept
- (4) Control objectives
- (5) Specific instructions¹⁸

The two definitions to follow concern particular positions in the control organization. Due to the fact that the terms are used interchangeably by some people it is best to define them here to prevent misunderstanding later.

EXERCISE DIRECTOR - FM 105-5, Maneuver Control states that the exercise director plans and conducts the exercise although he does not participate in the operations of the opposing forces. He acts as superior commander for both forces.¹⁹

The above definition applies to a maneuver. However, the exercise director occupies much the same position for a CPX. There is one important difference. He is not commander of both friendly and aggressor forces if

¹⁷FM 105-5 (Draft), op. cit., p. 13, 14.

¹⁸HQ 5th Corps, Control Directive, Exercise BIG LIFT (HQ 5th Corps, Frankfurt, Germany, 11 Oct., 1963), p. 1-6.

¹⁹FM 105-5, op. cit., p. 8.

the CPX is initiated by a higher headquarters. He will direct only the division and subordinate control groups in that instance.

CHIEF CONTROLLER - The Chief Controller is the operator for the exercise director. He actively directs the control staff and makes decisions concerning control operations and procedures. His specific responsibilities are:

- (1) Commands controller personnel
- (2) Responsible for controller training and for control of the CPX
- (3) Directs and coordinates the work of the various staff sections.²⁰

²⁰ Ibid., p. 10, 11.

BIBLIOGRAPHY

Books

Barzun, Jacques, and Graff, Henry F. The Modern Researcher. New York: Harcourt, Brace & Co., 1957.

Handlin, Oscar. Harvard Guide to American History. Cambridge, Mass.: Belknap Press, 1954.

Webster's Third New International Dictionary. Springfield, Mass.: G&C Merriam Co., 1961.

Articles and Periodicals

DeQuoy, Alfred W. "Operational War Gaming," Armor Magazine, Sept.-Oct., 1963.

Sanders, Frederick A. "Exercise SWIFT STRIKE III," Air University Review, Aerospace Studies Institute, Maxwell AFB, Ala., Jan.-Feb., 1964.

Exercise Documents

HQ Eighth Army. Training Memorandum Number 12. HQ Eighth Army, Seoul, Korea, 2 Oct., 1953.

HQ Eighty Second Airborne Division. Exercise Control Plan, CPX TUNE UP. HQ Eighty Second Airborne Division, Fort Bragg, N. C., 22 Jan., 1964.

HQ Eighty Second Airborne Division. Exercise SWARMER - Maneuver Control. HQ Eighty Second Airborne Division, Fort Bragg, N. C., 3 March, 1950.

HQ Fifth Corps. Control Directive, Exercise BIG LIFT. HQ Fifth Corps, Frankfurt, Germany, 11 Oct., 1963.

HQ First Corps. Exercise SNOW FLAKE. 19-24 Jan., 1958.

HQ First Corps. FTX EVERREADY GEORGE. 13 April, 1953.

HQ Fourth Army. Control Plan, Exercise CLOVER LEAF. HQ Fourth Army, Fort Sam Houston, Texas, 5 Dec., 1954.

- HQ Joint TF CINCPAC. Exercise Directive, Exercise SHORE LINE & Final Report, Exercise SHORE LINE. HQ Joint Army, Navy, Air Force TF, 28 June, 1962 & 2 Nov., 1962.
- HQ Joint US MAG to Thailand. Plan and After Action Report, Exercise DALLAS III. HQ Joint US MAG to Thailand, 10 Jan., 1962.
- HQ Seventh Army. Control Directive, CPX APRIL SHOWER. HQ Seventh Army, Stuttgart/Vaihingen, Germany, 10 March, 1961.
- HQ Seventh Army. Control Directive, CPX BOUNCEBACK. HQ Seventh Army, Stuttgart, Germany, 19 Nov., 1958.
- HQ Seventh Army. Control Directive, CPX FLASH BACK. HQ Seventh Army, Stuttgart/Vaihingen, Germany, 7 August, 1960.
- HQ Seventh Army. Control Scenario, Exercise AIRMED ALFA, Seventh Army FTX 18-24 Aug., 1957. Seventh Army, Stuttgart, Germany, 24 Aug., 1957.
- HQ Seventh Corps. Control Directive, Exercise FREE PLAY. HQ Seventh Corps, Moerhingen, Germany, 21 Jan., 1959.
- HQ Seventh Corps. Control Directive, Exercise PEACE MAKER/AUTUMN SHIELD. HQ Seventh Corps, Moerhingen, Germany, 6 Oct., 1961.
- HQ Seventh Corps. Exercise Directive, FTX FROSTY LION. HQ Seventh Corps, Moerhingen, Germany, 1 Dec., 1963.
- HQ Seventh Corps. Exercise Directive, Exercise MARNE ROCK, 16-23 Oct., 1962. HQ Seventh Corps, Moerhingen, Germany, Oct., 1962.
- HQ Seventh Corps. Operations Plan, Exercise SILVER SHIELD. HQ Seventh Corps, Moerhinger, Germany, 5 Oct., 1962.
- HQ Tenth Corps. Exercise CHAGO. HQ Tenth Corps (Group), Korea, 1954.
- HQ Third Armored Division. Exercise Control Directive, Exercise SPEARHEAD. HQ Third Armored Division, Frankfurt, Germany, 7 Oct., 1963.
- HQ Third Army. Control Plan, Exercise LUCKY DELTA 1959. HQ Third Army, Fort McPherson, Georgia, 1 Dec., 1958.
- HQ Third Infantry Division. Control Directive, CPX LITTLE ROCK. HQ Third Infantry Division, APO 36, N.Y., N.Y., 3 Jan., 1964.
- HQ Third Infantry Division. Organization and Support of Third Infantry Division Control Group for CPX LITTLE ROCK. HQ Third Infantry Division, APO 36, N.Y., N.Y., 2 Jan., 1964.
- HQ Twenty Fifth Infantry Division. CPX III-62. HQ Twenty Fifth Infantry Division, APO 25, San Francisco, California, 21 Nov., 1962.

HQ USAREUR. Control Directive, Exercise FALLEX 62. HQ USAREUR, Heidelberg, Germany, 30 July, 1962.

HQ USAREUR. Control Directive No. 1, Exercise SIDE STEP. HQ USAREUR, Heidelberg, Germany, 23 June, 1959.

Manuals, Guides and Handbooks

Army Umpire Group. Exercise PORTREX, Troop Umpire Check List. CONARC, Fort Monroe, Virginia, 1950.

Army War College. Control Manual, Volume II(Atomic Assessments). Army War College, Course #8, War Games, 15 May, 1957.

Army War College. A Guide to Planning FTX and Maneuvers Involving Large Units. Army War College Special Text, August, 1951.

Army War College. War Games Control Manual, Volume I. Army War College, Course #8, 15 May, 1957.

Clark, Dorothy Kneeland. War Game Manual for Umpires and Evaluators - ORO Study 62.2. John Hopkins University, Chevy Chase, Maryland, Oct., 1957.

CONARC/TAC. Guidance for the Conduct of USCONARC/TAC Joint Training Exercises. HQ CONARC, Fort Monroe, Virginia, 26 Sept., 1960.

HQ CONARC. War Gaming Handbook. HQ USCONARC, Fort Monroe, Virginia, Sept., 1961.

Department of the Army. FM 41-10 Civil Affairs Operations. HQ DA, Washington, D. C., 14 May, 1962.

Department of the Army. FM 21-5 Military Training. HQ DA, Washington, D. C.

Department of the Army. FM 31-15, Operations Against Irregular Forces. HQ DA, Washington, D. C., 31 May, 1961.

Department of the Army. FM 105-5 (Draft) Maneuver Control. USCGSC, Fort Leavenworth, Kansas, Oct., 1963.

Department of the Army. FM 105-5 Maneuver Control. HQ DA, Washington, D. C., Feb., 1958.

Department of the Army. FM 101-5 (Draft) Staff Organization and Procedures. HQ USACDC, Fort Leavenworth, Kansas, Jan., 1964.

HQ Fifth Army. Control Handbook, Exercise BIG BLAST XII & XIII. HQ Fifth Army, Chicago, Illinois, 30 Dec., 1963.

- HQ Fifth Army. SOP for FTX, Maneuvers and CPX. HQ Fifth Army, Chicago, Illinois, 10 June, 1959.
- HQ Fourth Army. SOP for FTX, CPX and Maneuvers. HQ Fourth Army, Fort Sam Houston, Texas, 10 June, 1955.
- HQ Seventh Army. Standard Control Reference Data. HQ Seventh Army, Stuttgart, Germany, 17 Aug., 1962.
- HQ Seventh Corps. Guide for Controller. HQ Seventh Corps, Moerhingen, Germany, June, 1963.
- HQ Seventh Corps. SOP for Field Operations, Seventh Corps. HQ Seventh Corps, Moerhingen, Germany, Jan., 1962.
- HQ Third Army. Control Handbook for CPXs. HQ Third Army, Fort McPherson, Georgia, 18 Jan., 1960.
- HQ Third Army. SOP for use in FTX and CPX. HQ Third Army, Fort McPherson, Georgia, 15 July, 1958.
- Umpire Group HQ, Fort Hood, Texas. Umpire Notebook, Exercise LONG HORN. Umpire Group HQ, Fort Hood, Texas, 25 Feb., 1952.
- HQ USAREUR. SOP for Exercises. HQ USAREUR, Heidelberg, Germany, 23 July, 1962.
- U.S. Naval War College. Operating Manual, Electronic Maneuver Board System. Naval War College, Newport, Rhode Island, 8 Jan., 1959.

Exercise Reports

- Commanding Officer, Amphibious Group One. Final Report, Exercise BLUE STAR. HQ Seventh Fleet, c/o FPO, San Francisco, California, 15 June, 1960.
- HQ Central Army Group. Post Exercise Narrative Report, Exercise CHECK MATE. HQ CENTAG, Seckenheim, Germany, 28 Oct., 1961.
- HQ COMSOTFE. Exercise DEVIL JUMP After Action Report. HQ Support Operations Task Force Europe, APO 163, N.Y., N.Y., 15 Feb., 1961.
- Director Controller HQ. Final Report for Exercise COULEE CREST. HQ US STRIKE Command, Eglin Air Force Base, Florida, 23 May, 1963.
- HQ Eighteenth Airborne Corps. Final Report of the Aggressor, Exercise SAGE BRUSH. HQ Eighteenth Airborne Corps, Fort Bragg, N.C., Dec., 1955.
- HQ Eighth US Army. Final Report, Eighth US Army CPX 1-4 December, 1953. HQ Eighth US Army, APO 301, c/o PM, San Francisco, California, 28 Dec., 1953.

- HQ Eighty Second Airborne Division. After Action Report, Eighty Second Airborne Division CPX TUNE-UP. HQ Eighty Second Airborne Division, Fort Bragg, N.C., 12 Feb., 1964.
- HQ Eighty Second Airborne Division. Exercise PORTREX, Final Report. HQ Eighty Second Airborne Division, Fort Bragg, N.C., 1 July, 1950.
- HQ Exercise Dry Hills. Final Report, Exercise DRY HILLS. HQ Exercise Dry Hills, Fort Lewis, Washington, 10 July, 1959.
- HQ Exercise Mesa Drive. Army Final Report, Exercise MESA DRIVE. HQ Exercise MESA DRIVE, Fort Lewis, Washington, 30 June, 1962.
- HQ Fifth Corps. Final After Action Report, CPX APRIL SHOWER. HQ Fifth Corps, Frankfurt, Germany, 22 July, 1961.
- HQ First Army. Final Report Exercise RAINDROP. HQ First Army, Governors Island, N.Y., N.Y., 21 May, 1954.
- HQ First Battalion, Fifty First Infantry. Fourth Armored Division Control After Action Report - Exercise LION VERT. HQ Fourth Armored Division, Goepingen, Germany, 19 Sept., 1963.
- HQ Fourth Armored Division. After Action Report, FTX PEACE MAKER. HQ Fourth AD, APO 326, N.Y., N.Y., 24 Nov., 1961.
- HQ Fourth Army. Final Report, Exercise BIG THRUST. HQ Fourth Army, Fort Sam Houston, Texas, undated.
- HQ Fourth Army. Final Report, Exercise CLOVER LEAF III. HQ Fourth Army, Fort Hood, Texas, 27 April, 1959.
- HQ Fourth Army. Final Report, Exercise EAGLE CLAW. HQ Fourth Army, Fort Sam Houston, 23 Dec., 1960.
- HQ Fourth Infantry Division. Final Report, Exercise BEAR PAW. HQ Fourth Infantry Division, APO 39, N.Y., N.Y., 5 Nov., 1955.
- Garret, Franklin T. Controller Report on CPX 21-22 Jan., 1960 (DRAGONHEAD). HQ Control Group/Provisional, Eighty Second Airborne Division, Fort Bragg, N.C., 8 Feb., 1960.
- HQ Joint Task Force Clear Lake. Final Report, Exercise CLEAR LAKE. HQ Joint Task Force Clear Lake, Eglin Air Force Base, Florida, 8 June, 1962.
- HQ Maneuver Commander. Critique, Exercise SWARMER. HQ Maneuver Commander, Fort Bragg, N. C., 5 May, 1950.
- HQ Maneuver Director. Final Report, Exercise LONG HORN. HQ Maneuver Director, Fort Sam Houston, Texas, 18 June, 1952.
- HQ Maneuver Director. Final Report, Exercise SNOW FALL. HQ Maneuver Director, Camp Frum, N.Y., 29 Feb., 1952.

- HQ Pacific Air Forces. Final Report, Exercise HOT FLASH III. HQ Pacific Air Forces, 3 Oct., 1959.
- HQ Seventh Army. After Action Report, Exercise GRAND SLAM I. HQ Seventh Army, Stuttgart, Germany, 15 May, 1962.
- HQ Seventh Army. Critique on Exercise WINTER SHIELD II. HQ Seventh Army, Stuttgart, Germany, 21 Feb., 1961.
- HQ Seventh Army. Final Report on FTX AIRMED ALFA. HQ Seventh Army, Stuttgart, Germany, 13 Dec., 1957.
- HQ Seventh Army. Post-Exercise Narrative Report, CPX CHECK MATE. HQ Seventh Army, APO 46, N.Y., N.Y., 10 Oct., 1961.
- HQ Seventh Corps. Final Report, CPX GRAND SLAM I. HQ Seventh Corps, APO 107, N.Y., N.Y., 30 April, 1962.
- HQ Seventh Corps. Final Report, Exercise APRIL SHOWER - 1961. HQ Seventh Corps, Moerhingen, Germany, 25 July, 1961.
- HQ Seventh Corps. Final Report, Exercise CHECK MATE. HQ Seventh Corps, Moerhingen, Germany, 5 Oct., 1961.
- HQ Seventh Corps. Final Report, Exercise FREE PLAY. HQ Seventh Corps, Moerhingen, Germany, 23 March, 1959.
- HQ Sixth Army. Final Report CPX BREAK THROUGH V. HQ Sixth Army, San Francisco, California, 25 April, 1961.
- HQ Third Infantry Division. After Action Report, CPX CHECK MATE. HQ Third Infantry Division, Wurzburg, Germany, 21 Sept., 1961.
- HQ Twenty Fifth Infantry Division. After Action Report, Exercise HANDA. HQ Twenty Fifth Infantry Division, Fort William McKinley, Rizal, Phillippine Republic, 21-25 June, 1962.
- HQ USACOMZEUR. Final Player Report, Exercise BOUNCE BACK. HQ USACOMZEUR, Orleans, France, undated.
- HQ US Army Caribbean. Final Report and Exercise Directive, Operation FRATERNIDAD. HQ US Army Caribbean, Office of the CG, Fort Amador, Canal Zone, 5 October, 1962.
- HQ US Forces, Korea. After Action Report, Exercise BIG DEAL. HQ US Forces, Seoul, Korea, 3 Oct., 1959.
- HQ US Forces, Korea. After Action Report, Exercise KOREA 61-I. HQ US Forces, Seoul, Korea, undated.

Other

- Army War College. Use of War Games in Testing Plans. Army War College, Carlisle Barracks, Pennsylvania, 1954.
- Army War College. War Games - Brief Anthology. Army War College, Carlisle Barracks, Pennsylvania, 6 Jan., 1958.
- Belt, Richard L. Comments on CPX Control, Ninth Corps. HQ Ninth Corps, APO 49, San Francisco, California, 21 March, 1964.
- CONARC Office of Special Weapons Development. Nuclear Play Calculator. CONARC OSW, January, 1961.
- CORG. CORG -R-60 Umpire Control of Combat Developments Experiments. HQ CONARC, Fort Monroe, Virginia, 31 July, 1957.
- CORG. CORG Memo CM-47 (Task FE-2) Umpire System Study for Combat Development Troop Tests. HQ CONARC, Fort Monroe, Virginia, 7 Sept., 1956.
- Department of the Army. AR 32005, Dictionary of United States Army Terms. Department of the Army, Washington, D. C., 28 Feb., 1963.
- Drake, Charles F. Comments on CPX Control, Personal. CPX Control Survey, USACGSC, Fort Leavenworth, Kansas, 10 January, 1964.
- Eddy, Alan G. Application of the Automatic Data Processing System(s) (ADPS) to the SYNTAC System of War Gaming. Technical Operations, Inc., Fort Monroe, Virginia, 1 August, 1959.
- HQ Eighteenth Airborne Corps. Comments on CPX Congrol, Eighteenth Airborne Corps. HQ Eighteenth Airborne Corps, Fort Bragg, N.C., 15 Jan., 1964.
- Encyclopedia Britannica. History of War Games. Encyclopedia Britannica Research Service Paper, Chicago, Illinois, Dec., 1963.
- Fisher, Wesley C. Comments on CPX Control, Third Infantry Division. HQ Third Infantry Division, APO 36, N.Y., N.Y., 29 Jan., 1964.
- Hofmann, Rudolf. War Games. Department of the Army, MS #P-094, Washington, D. C., 1952.
- Howell, Robert P. Comments on CPX Control, Seventh Corps. HQ Seventh Corps, APO 107, N.Y., N.Y., 14 Feb., 1964.
- Hume, Albert G. Comments on CPX Control, Personal. CPX Control Survey, USACGSC, Fort Leavenworth, Kansas, 10 Jan., 1964.
- Instructors, USACGSC. Major Problem Areas in CPX Control, Extracts. CPX Control Survey, USACGSC, Fort Leavenworth, Kansas, 10 Feb., 1964.
- The Joint Chiefs of Staff. JCS Publication Nr. 1 - Dictionary of United States Military Terms for Joint Usage. The JCS, Washington 25, D.C. 1 Feb., 1962.

- Lodewick, Lawrence S. Comments on CPX Control, Fourth Armored Division.
HQ Fourth Armored Division, APO 326, N.Y., N.Y., 7 Feb., 1964.
- McIntyre, G. W. Comments on CPX Control, First Corps. HQ First Corps,
APO 358, San Francisco, California, 24 Jan., 1964.
- Mayor, Robert F. Comments on CPX Control, Third Armored Division. HQ
Third Armored Division, APO 39, N.Y., N.Y., 21 Jan., 1964.
- Negaard, Carman D. Comments on CPX Control, Eighty Second Airborne Division.
HQ Eighty Second Airborne Division, Fort Bragg, N.C., 27 Feb., 1964.
- Pettijohn, W. C. Battalion War Games Report. Combat Operations Research
Group, HQ CONARC, Fort Monroe, Virginia, 25 March, 1955.
- Raney, Thompson L. Comments on CPX Control, Personal. CPX Control Survey,
USACGSC, Fort Leavenworth, Kansas, 10 Jan., 1964.
- Rutherford, Andrew M. Command Post Exercise Control - Questionnaire.
USACGSC, Fort Leavenworth, Kansas, 10 Jan., 1964.
- HQ Second Infantry Division. Comments on CPX Control, Second Infantry
Division. HQ Second Infantry Division, Fort Benning, Georgia, 9
March, 1964.
- Students, USACGSC. Major Problem Areas in CPX Control, Extracts. CPX
Control Survey, USACGSC, Fort Leavenworth, Kansas, 20 Feb., 1964.
- USACGSC. Subject A1010, Commander and His Staff - Principles of Organiza-
tion and the Commander's Management Functions. USACGSC, Fort
Leavenworth, Kansas, September, 1963.
- USACGSC (DDO). Mechanized Division, Meeting Engagement, Map Maneuver
M6491. USACGSC, Fort Leavenworth, Kansas, 1963.
- Young, John P. A Brief History of War Gaming. HQ CONARC, CORG Memo Nr. 41,
18 Oct., 1955.

INSTRUCTIONS

This survey is designed to elicit answers and comments to specific questions concerning command post exercise control to gain information for a detailed study. The focus of the study is command post exercise control at division level. If your experience was at different levels than division your answers are still of great value. If a question does not apply to your experience do not answer it.

Circle the answer where possible. If none of the stated answers fit your case then make a written comment.

Where the word "brigade" is seen equivalent levels such as battle group, regiment, combat command, or separate group are also indicated.

You may have had experience as a controller in several CPX's which may have been quite different from each other in control methods and procedures. If such is the case a questioner for each exercise should be executed or appropriate remarks included in responses to questions where there are multiple answers due to this factor.

Comment on facets of command post exercise control not covered in this survey are also desired.

ORGANIZATION

1. Briefly describe your control organization. Use a sketch.

2. Did you maintain a permanent Control Group? Yes No
If yes, how large was this permanent Control Group?

3. What special staff sections were represented on the Control Group?
(List)

4. Was the control organization set by an SOP? Yes No
 - a. If not, who developed the organization for each exercise? (Name)
 - b. Did you consider the control organization to be adequate? Yes No
 - c. Was the organization within staff sections prescribed, or did the section chiefs organize as they saw fit?
 - (1) Prescribed.
 - (2) Not prescribed.

5. In your control organization was there a Deputy Chief Controller for Operations or Logistics? Yes No
If your organization had such positions:
 - a. Did you think there was a need for them? Yes No
 - b. What was the function of the Deputy Chief Controller?
(Briefly describe)

PERSONNEL

1. Number of times that you participated as a member of a control group. _____
2. Levels of participation.
 - a. Battalion.
 - b. Brigade.
 - c. Division.
 - d. Corps.
 - e. Army.
 - f. Other.
3. Was the quantity of personnel assigned to control adequate? Yes No
4. Was the quality of personnel assigned to control adequate? Yes No
What was the deficiency? (Number in order of choice)
 - a. Lack of experience.
 - b. Indifferent.
 - c. Incompetent.
 - d. Low education level.
5. What personnel selection criteria was used?
 - a. None.
 - b. Chief Controller or Deputy Chief Controller decided on personnel as they reported in for duty.
 - c. Section Chief decided whether to retain individuals by interview or observation.
 - d. Unit G1 was given selection criteria prior to allocation of personnel requirements to subordinate units.
6. If choice "d" above was indicated, what was the criteria?
 - a. Certain grades for each organizational position.
 - b. Experience in that or similar type position required.
 - c. Prior control experience required.
 - d. Other (list).
7. Was there a policy in writing which prescribed selection criteria for control personnel? Yes No
8. What was the grade of Chief Controllers at the following levels?
 - a. Army _____.
 - b. Corps _____.
 - c. Division _____.
 - d. Brigade _____.
 - e. Battalion _____.
 - f. Company _____.
 - g. Other _____.

PERSONNEL (Continued)

9. Were personnel for Control drawn from the unit being exercised or from other units?
- a. From own unit.
 - b. From other units.
 - c. Both.
10. Did player personnel tend to influence control actions due to disparity in rank between the player and controller at a given level?
Yes No
11. Did controllers at company, battalion or brigade level generally lack experience? Yes No What level in particular? _____.
- a. What was the cause of this?
 - (1) Lack of experienced personnel.
 - (2) No selection criteria.
 - (3) No command emphasis.
 - (4) Other (state).
 - b. What was done to alleviate the situation?
 - (1) Attempted to obtain replacements.
 - (2) Nothing.
 - (3) Control schools established.
 - (4) Guides/SOP's and check lists published.
 - (5) Close supervision.
 - (6) Other (state).
12. What role did the Chief Controller play in the CPX?
- a. Very little, Exercise Director made all decisions.
 - b. Very little, Deputy Chief Controller ran Control.
 - c. Very much. Made all Control decisions.
 - d. Other (state).
13. Were the duties and responsibilities of the Chief Controller prescribed in writing? Yes No
14. In what capacity did you participate as a member of a Control Group? (State)

G1

1. Was the G1 organization adequate? Yes No
2. Did the G1 have responsibility for specific special staff sections?
(e.g. PM) Yes No. If "Yes" list.
3. Did G1 play parallel and reflect the tactical situation? Yes No
4. Did G1 play properly exercise player personnel concerned? Yes No
5. Was the play realistic? Yes No
6. Did the G1 Controller have the requisite experience? Yes No
7. Was the G1 responsible for administrative support of the Control
Group? Yes No

G2

1. What were the broad areas of responsibility of the G2 Controller?
(Add duties not listed.)

- a. Aggressor concept and scheme of maneuver.
- b. Play of the following agencies.
 - (1) Air Force reconnaissance (including post strike analysis).
 - (2) POI.
 - (3) ASA.
 - (4) Army aviation (visual reconnaissance and photo reconnaissance).
 - (5) Drones.
 - (6) LRRP.
 - (7) CI.
 - (8) SLAR.
 - (9) POW.
 - (10) Other (list).
- c. Conduct of aggressor maneuver.
- d. Briefings.
- e. Message planning, writing, publication and injection representing information from agencies listed in paragraph 1b.
- f. Security of Control areas and documents maintained by the Control organization.
- g. Planning and conduct of pre-exercise war games.
- h. Training of intelligence control personnel.
- i. Training of all control personnel.
- j. Supervision of other staff sections.
- k. Other (list).

2. Was there CI play in exercises in which you participated? Yes No

- a. Was there CI Control personnel? Yes No
- b. Were situations presented to exercise CI player personnel? Yes No
- c. Was the play effective in this respect? Yes No
- d. If not, why not?
 - (1) Lack of response on part of players.
 - (2) Unrealistic situations.
 - (3) Unsatisfactory CI scenario.
 - (4) Other (name).

3. Was Air Force reconnaissance played? Yes No

- a. At what level did message injection occur?
 - (1) Company.
 - (2) Battalion.
 - (3) Brigade.

G3

1. What were the broad areas of responsibility of the G3 Controller?
(Add duties not listed.)

- a. Aggressor concept and scheme of maneuver.
- b. Play of simulated friendly units.
- c. Message planning, writing, publication and injection representing information from:
 - (1) Intelligence agencies.
 - (2) Simulated friendly units.
 - (3) Other.
- d. Briefings (G3 portion) and/or briefing for control group as a whole.
- e. Liaison.
 - (1) Other control groups.
 - (2) Player units.
- f. Control security.
- g. Pre-exercise conferences.
- h. Pre-exercise war games(s).
- i. Control personnel training.
- j. Conduct of aggressor maneuver.
- k. Supervision of other staff sections.
- l. Staff responsibility for Control Operations Center.
- m. Monitor friendly operations.

2. How was coordination effected between the G3 and the G2?

- a. Physically were located in close proximity.
- b. Individual initiative.
- c. Deputy Chief Controller for Operations coordinated the G2/G3 activities.
- d. Formal conferences.
- e. Briefings.
- f. Chief Controller or his immediate deputy coordinated the two staff sections.

3. During conduct of the CPX was there an operations section or separate G2 and G3 sections?

- a. Operations section.
- b. G2 and a G3 section.

4. Did the G3 Controller supervise the Artillery Controller? Yes No

a. Did they closely coordinate as to friendly maneuver and fires?
Yes No

b. Did they closely coordinate concerning aggressor fire effect on friendly actions? Yes No

5. Did the G3 Controller have the requisite experience? Yes No

G2 (Continued)

- (4) Division.
 - (5) Corps.
 - (6) Army.
 - (7) ASOC.
 - b. Were in-flight spot reports utilized? Yes No
 - c. When the Air Force injected information at ASOC level what was the average time lapse between initiation of mission request (immediate) and receipt of information by player?
 - (1) 1 hour.
 - (2) 4 hours.
 - (3) 3 hours.
 - (4) 12 hours.
 - (5) 24 hours.
 - (6) More than 1 day.
4. Was there ASA play in the CPX's in which you participated? Yes No
- a. Was there an ASA qualified controller in the Control group?
Yes No
 - b. Was he properly utilized? Yes No
5. Did the G2 and Artillery controllers coordinate closely on Aggressor fire support play? Yes No
- a. Did the G2 Controller supervise the Artillery Controller in this respect? Yes No
 - b. Were these relationships and aspects of coordination covered in the Control group SOP? Yes No
6. Did the G2 Controller handle guerrilla play? Yes No
- a. If not who handled guerrilla play? (name-title)
 - b. Was there correlation between guerrilla play and the tactical situation? Yes No
7. Did the G2 Controller have the requisite experience? Yes No

G4

1. Was the G4 organization adequate? Yes No
2. Did the G4 have responsibility for specific special staff sections?
(e.g. Ordnance) Yes No
3. Did combat service support play parallel and reflect the tactical situation? Yes No
4. Did combat service support play properly exercise player personnel concerned? Yes No
5. Was the play realistic? Yes No
6. Did combat service support play have an effect on tactical play?
(As an example did an ASR apply and did it affect artillery ammunition expenditure, or did lack of POL limit unit maneuver?) Yes No
7. Did the G4 Controller have the requisite experience? Yes No
8. Was the G4 responsible for logistic support of the Control Group?
Yes No

TRAINING

1. Did you "war game"/rehearse the CPX prior to the exercise? Yes No

a. Who attended?

- (1) Controllers at your level.
- (2) Controllers from subordinate headquarters.
- (3) Controllers from higher headquarters.
- (4) Players
- (5) Observers from non-participating headquarters.

b. How long did the "war game"/rehearsal take to conduct?

- (1) Less than 1 day.
- (2) 1 day.
- (3) 2 days.
- (4) 3 days.
- (5) Other (state).

c. Briefly describe how the "war game"/rehearsal was conducted.

d. Did the "war game"/rehearsal accomplish its purpose? Yes No

e. At what levels were pre-exercise war games conducted?

- (1) Battalion.
- (2) Brigade.
- (3) Division.
- (4) Corps.
- (5) Army.
- (6) Other.

2. Did the members of the control group, particularly those in non key positions need controller training?

- a. No.
- b. Refresher.
- c. Indoctrination only.
- d. Intensive and detailed.

3. Was there a school or some means of training for controllers? Yes No

a. How long was the school or indoctrination? (State number of days) _____.

b. Did the training accomplish its purpose? Yes No

c. Who conducted the controller training? (Job title within control organization). _____.

d. Was controller training handled the same way at all levels?
Yes No

4. What was the aspect of control procedures, methods and techniques that most needed emphasis? (state)

COORDINATION AND LIAISON

1. Coordination with higher and lower headquarters.

- a. Did staff sections conduct liaison with their opposite number at higher and lower level? Yes No
 - b. Did you use liaison officers? Yes No
 - c. Did you maintain liaison with player headquarters? Yes No
- If yes, how?

2. What means were taken to insure coordination internally between staff sections within the Control group?

- a. None.
- b. Conferences.
- c. Briefings.
- d. Individual liaison between staff members.
- e. Progress reports.
- f. Schedules.
- g. Briefings.
- h. Other (name).

3. Other than control personnel, who knew the scheme of Aggressor maneuver? (name by title)

Do you approve? Yes No

4. To whom were briefings by the control group given?

- a. Your own Control group.
- b. Higher headquarters Control group(s).
- c. Subordinate headquarters Control group(s).
- d. Selected players (e.g. Division CG).
- e. Personnel from nonparticipating headquarters.

5. What headquarters approved the Control Directive of your Control Group?

- a. Commander of player headquarters at level of your Control Group.
- b. Next higher Control Group headquarters.
- c. No approval required.
- d. Other (name).

6. Were conferences/briefings directed and held by higher Control Group headquarters? Yes No

7. Were coordination and liaison procedures established by the Control Group SOP? Yes No

8. When foreign units participated in a CPX, what procedures that differed from normal were used to insure coordination? (Briefly describe)

AGGRESSOR PLAY

1. Was the aggressor representation realistic? Yes No
Why? (Principal reason)

2. What type of order of battle was utilized?
 - a. FM 30-103.
 - b. CENTAG Order of Battle Handbook.
 - c. Published by higher headquarters for exercises.
 - d. Fabricated by your headquarters.
 - e. Other.

3. Who controlled the aggressor forces?
 - a. G2 Controller.
 - b. G3 Controller.
 - c. Other (name).

4. How were aggressor forces allocated to subordinate controllers?
 - a. By area.
 - b. By aggressor organization (e.g. all divisions of an aggressor army under same control group).
 - c. Other (name).

5. How did you control aggressor units?
 - a. All aggressor units were controlled at corps.
 - b. All aggressor units were controlled at division.
 - c. Aggressor units were allocated, by area, down to lowest Control level.
 - d. Aggressor units were allocated to subordinate control groups, but were controlled based on aggressor organization rather than a specific area.

6. Did aggressor boundaries coincide with friendly unit boundaries? Yes No

7. How was control of an aggressor airborne force handled? (Briefly describe)

AGGRESSOR PLAY (Continued)

8. At what level were aggressor units in contact maneuvered?

- a. Company.
- b. Battalion.
- c. Brigade.
- d. Division.
- e. Corps.
- f. Army.
- g. Other.

9. What methods were used to transfer control of aggressor units from one Control Group to another? (Briefly describe)

10. Was a change in aggressor scheme of maneuver or allocation of aggressor units ordered during the CPX by higher level control group or player headquarters?

- a. No.
- b. By higher Control headquarters.
- c. By player.
- d. By both player and controller headquarters at different times during the exercise.

11. Reference question #10. When such changes in plan or allocation of forces were made necessary, were such changes accomplished smoothly or did they cause confusion?

- a. Accomplished smoothly. Procedures outlined prior to start of CPX.
- b. Accomplished fairly smoothly, but procedures had to be improvised.
- c. Caused a lot of confusion. No one was prepared for it.

CONTROL METHODS

1. Describe what you consider were your major control problems. What solutions are proposed?

2. How did you control movements of units?

- a. Scenario dictated movement and maneuver.
- b. Phase lines.
- c. Free play.
- d. Other (state).

3. During the formulation of the scenario, if the scenario dictated aggressor maneuver and movement, or during the play of the exercise if free play or phase lines were used, was movement and maneuver based on war gaming techniques, (e.g. given a force ratio the stronger unit can advance at a certain rate per hour)? Yes No

CONTROL METHODS (Continued)

4. Did the Control SOP set forth control procedures to be used? Yes No
5. Did you have to improvise control measures during the conduct of the CPX?
Yes No
6. Did the CPX involve friendly foreign units? Yes No
If yes:
 - a. Did new or different control measures have to be evolved because of this? Yes No
 - b. Did the Control SOP prescribe certain measures or methods in this eventuality (Multinational CPX)? Yes No
7. How was a force ratio between opposing units determined?
 - a. Estimate.
 - b. Tables included in SOP.
 - c. No force ratio was determined.
8. How was a determination made as to how fast an attacker could move?
 - a. Estimate.
 - b. Tables in SOP based on force ratio.
 - c. Player determined this.
 - d. March tables.
9. Were there tables available to the controllers so that the following could be determined:
 - a. Effect of nuclear weapons.
 - b. Probabilities.
 - c. Effect of air strikes.
 - d. Casualties in a given type engagement by time.
 - e. CBR casualties.
 - f. Equipment losses.
 - g. A means to relate combat effectiveness with capability. (e.g. determine a new force index based on current combat effectiveness.)
 - h. Surface to air missile effectiveness.
 - i. Effects of visibility and terrain on combat--specifically movement and maneuver.
 - j. March rates.
 - k. Capability of a given force in relation to another. (Usually expressed as an index. An example would be an aggressor motorized rifle battalion as compared to a US infantry battalion; say 1.0 to 1.2.)
 - l. Effect of refugees on movement or maneuver.
 - m. Other (list).

CONTROL METHODS (Continued)

10. Were controllers capable of handling the various computations necessary to determine the outcome of various encounters? Yes No Were they able to do this in a timely manner? Yes No

11. Do you believe that the effects of artillery by battery or battalion volley can be assessed manually in the time parameters of a given tactical encounter? Yes No

a. Would this depend on the level that the Controller is at? Yes No

b. Is it necessary to separate the consideration of the effects of artillery from that of other weapons possessed by a military force? Yes No

12. What detracted most from the realism of the CPX? (Indicate by number in order of importance.)

a. Aggressor play.

b. Time space factors used.

c. Nuclear weapons play.

d. CBR play.

e. Combat service support play.

f. Intelligence play.

g. Controller actions. (Such as halting the play administratively.)

h. Player actions. (Such as disregarding situations which would affect play.)

i. War gaming methods utilized.

j. Other (name).

13. Did controllers experience difficulty in analyzing the actions indicated by player orders and assessing the outcome of each engagement, within the time allocated? Yes No

14. Were player orders and reports timely and in enough detail to portray adequately to Control the friendly concept of operations and friendly situation? Yes No

MESSAGE PLAY

1. Were messages preplanned and written? Yes No
2. Were the messages which were written complete, or had detail which were to be entered depending on the situation been left blank? Yes No
3. About how many messages were written by your control headquarters prior to the start of the CPX?
 - a. None.
 - b. 100.
 - c. 500.
 - d. 1000.
 - e. 2000.
 - f. More than 2000.
4. Were copies of messages published for information and use of lower and higher headquarters. Yes No
5. Was an incident list published? Yes No
What was its format?
 - (1) Chronological. (Integrated.)
 - (2) By staff section or headquarters.
 - (3) Chronologically by staff section and headquarters.
6. Was a consolidated incident list, containing all messages to be injected, published? Yes No
7. Was there coordination between the various levels of control as to what type of message would be injected at each level? Yes No
8. What was the message coordination procedure? Briefly describe.
9. Was there a standard message format? Yes No
10. Was the message format contained in the Control SOP? Yes No
11. Was the format adequate? Yes No
12. At what levels were messages injected?
 - a. Company.
 - b. Battalion.
 - c. Brigade.
 - d. Division.
 - e. Corps.
 - f. Army.
 - g. Other.
13. Were messages that were injected, particularly by the G1 and the G4 correlated with the tactical situation? Yes No

OPERATIONS

1. Was there interference with the control group activities by personnel outside the control chain of command? Yes No
 - a. Who? (Position title)
 - b. What reason?

2. What was the lowest level unit portrayed on your Control situation map(s)?

<u>Friendly</u>	<u>Aggressor</u>
a. Company.	a. Company.
b. Battalion.	b. Battalion.
c. Brigade.	c. Brigade.
d. Division.	d. Division.

3. Where was your control headquarters located during conduct of the CPX?
 - a. Co-located with player headquarters.
 - b. In field but at a distance from player headquarters.
 - c. In garrison.
 - d. Other (name).

4. Describe the physical layout of your operations center for conduct of the exercise. Use diagram if desired.
 - a. Did the Control SOP describe an operations facility and what was needed to equip it? Yes No
 - b. Were the operations center physical facilities adequate? Yes No

5. Who had responsibility for the Operations Center during conduct of the CPX?
 - a. Chief Controller.
 - b. Deputy Chief Controller.
 - c. Deputy Chief Controller for Operations.
 - d. G3 Controller.
 - e. G2 Controller.

6. Who was responsible for the physical establishment of the Operations Center in the field? (Name-title)

7. What was the organization for operations during the conduct of the CPX?
 - a. Two shifts.
 - b. Three shifts.
 - c. Section chiefs floated.
 - d. No shift organization per se.
 - e. Other (Describe).

OPERATIONS (Continued)

8. What determined operational procedures during the conduct of the CPX?
- a. SOP.
 - b. Nothing.
 - c. The situation of the CPX
 - d. Directive formulated for the one exercise.
 - e. The whim of the Chief controller.

PUBLICATIONS

1. Did your headquarters have a guide or SOP for control of CPX's/PTX's?
Yes No

Did the guide or SOP follow doctrine contained in FM 105-5, Maneuver Control? Yes No

2. Were the duties, functions, and responsibilities of all members of the Control Group stated in a control SOP? Yes No

a. Was your SOP complete? Yes No

b. Did you consider the SOP too voluminous or complicated? Yes No

3. Was there a published time schedule of events and tasks to accomplish?
Yes No

4. Did the next higher headquarters have a control SOP from which guidance could be obtained? Yes No

5. Did your Control Group have the requisite reference documents on hand?

a. None.

b. Some, but a serious deficiency.

c. Most. No serious deficiency.

6. Was the next higher Control Group headquarters' Control Directive published so that your Control Group had sufficient preparation time prior to the exercise? Yes No

7. Did your Control Group publish a Controller Check List? Yes No

8. Were there instructions published for players indicating the rules of play, Controller responsibilities to the player and any limitations on the exercise? Yes No

REPORTS

1. Were special Control reports utilized? Yes No
(Circle ones used.)

- a. G2 Situation report.
- b. G3 Situation report.
- c. Operational Situation Report (G2/G3 combined).
- d. G1 Situation report.
- e. PDS report.
- f. G4 Situation report.
- g. FLT.
- h. Air Force reconnaissance request.
- i. Control critique.
- j. Evaluation report.
- k. Final report.
- l. Other (list).

2. Were report forms standardized? Yes No

3. Were report formats changed from exercise to exercise? Yes No

4. Were report forms simple and easy to use? Yes No

5. Did the required reports transmit the necessary information? Yes No

6. Were the subordinate controllers capable of obtaining and forwarding all of the information required of them by the directed reports in a timely manner? Yes No

CHECK LISTS

1. Did Control personnel, especially at lower levels, serve as evaluators?
Yes No
2. Was a Control check list published for use by subordinate Controllers?
Yes No
3. If a check list was published was it satisfactory? Yes No
4. Do you think a check list is of use at brigade and lower levels of Control? (Not necessarily for evaluation, but also for controller duties.)
 - a. No use.
 - b. Some use.
 - c. Helps a great deal.
 - d. Essential.

ADMINISTRATION

1. Files.

- a. Did you have a central control repository? Yes No
- b. Did you also have, or have in place of central files, staff section files? Yes No
- c. Were classified documents kept in a separate file? Yes No
- d. Who was the classified documents custodian?
 - (1) Administrative officer.
 - (2) Deputy Chief Controller.
 - (3) G2 Controller.
 - (4) G1 Controller.
 - (5) G3 Controller.
 - (6) Other (name).

2. Did you have an Administrative Officer to take care of non-operational administrative matters? Yes No

- a. Was this person trained in such work? Yes No
- b. Was there a SOP for administration for the control group that could be referred to? Yes No

3. Did the Administrative Officer also take care of supply, transportation and other logistic support matters? Yes No

If not who did? (Give title)

4. Who supervised the Administrative Officer?

- a. Chief Controller.
- b. Deputy Chief Controller.
- c. G3.
- d. G1.
- e. G4.

5. Was the Administrative organization adequate? Yes No

6. Did the Administrative Officer have the requisite experience? Yes No

7. Did the Documents Custodian have the requisite experience? Yes No

8. Security.

- a. Did the CPX have a security classification? Yes No
- b. Did the security classification of the CPX hamper the planning, preparation or conduct of the exercise? Yes No
- c. What was the security classification of the aggressor/enemy order of battle that was used?

d. Was there a Control security SOP? Yes No Was it adequate? Yes No



COMBINED ARMS RESEARCH LIBRARY
FORT LEAVENWORTH, KS



3 1695 00615 2672

14

